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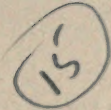
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No. 1. MAJOR-GENERAL ALEXANDER McDOUGALL, C.B.
Director-General Timber Operations, Great Britain
and France.



THE CANADIAN FORESTRY CORPS

*Its Inception, Development
and Achievements*

PREPARED BY REQUEST OF
THE RT. HON. SIR ALBERT
H. STANLEY, M.P., PRESIDENT
OF THE BOARD OF TRADE



BY

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THE CANADIAN
FORESTRY COMMISSION



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CHAPTER I.

 THE FIRST LUMBERMEN'S BATTALION
 (THE 224TH).

Inception.—Among the historic documents of the War must surely be reckoned the first appeal from Great Britain to Canada for assistance in exploiting British forests so as to save tonnage and help to counter the submarine menace. It was on the 15th February, 1916, after a little more than 18 months of War, that the Colonial Secretary cabled to the then Governor-General of Canada, H.R.H. the Duke of Connaught, the following urgent message :—

“ H.M. Government would be grateful if the Canadian Government would assist in the production of timber for War purposes. Owing to the very serious shortage of freight for munitions, food, forage and other essentials, which is a matter of the gravest concern to H.M. Government, it is impossible to continue to import Canadian timber on a sufficiently large scale to meet War requirements, and arrangements must therefore be made for felling and converting English forests.

“ Chief difficulty is finding sufficient skilled labour, fellers, hauliers and sawyers. 1,500 men are urgently needed, and H.M. Government would suggest that a Battalion of Lumbermen might be formed of specially enlisted men to undertake exploitation of forests of this country.

“ If proposal commends itself to Canadian Government, would beg very early action. Suggest that men should be enlisted into Canadian Expeditionary Force and despatched in small companies under competent supervision. Government is aware that lumber season now in progress, but feel sure that men would enlist even at sacrifice of present employment if the reason of the appeal were made known to them. Incidence of cost will be arranged as agreeable to Canadian Government.”

A further cable was sent on the 29th February. So quickly did the Canadian Authorities make up their minds that on the 1st March a cable was received stating that the Battalion asked for would be provided, with the least possible delay, and enquiring for further particulars of the kind of men wanted. The Governor-General was informed on the 6th March that the Canadian Government's action was highly appreciated, and that the lumbermen were required for all stages from felling to cutting into sleepers, scantlings, etc. It was suggested that the Battalion might be composed of 700 fellers, 450 sawyers and assistant sawyers, 250 carters and hauliers, and 100 enginemen. So urgent was the need that on the 11th March it was suggested that the Lumbermen should be sent forward in batches of 50 instead of waiting for the whole Battalion to be recruited.

The raising of this Battalion affords a splendid example of the readiness of the Canadian Government to assist in a most unexpected direction, and of the energy, rapidity and “ hustle ” for which the Canadians are famous. Although the first request for assistance was only sent on the 15th February, 1916, an establishment was authorised by the Department of Militia and Defence as early as 25th February, for the formation of a Forestry Battalion to be known as the 224th Canadian Forestry Battalion. In six weeks, 1,600 men were recruited and mobilised at Quebec from all parts of the Dominion ; machinery to the value of about \$250,000 was purchased in Canada, consisting of mills, lorries, etc. By the 17th March it was reported that an advance

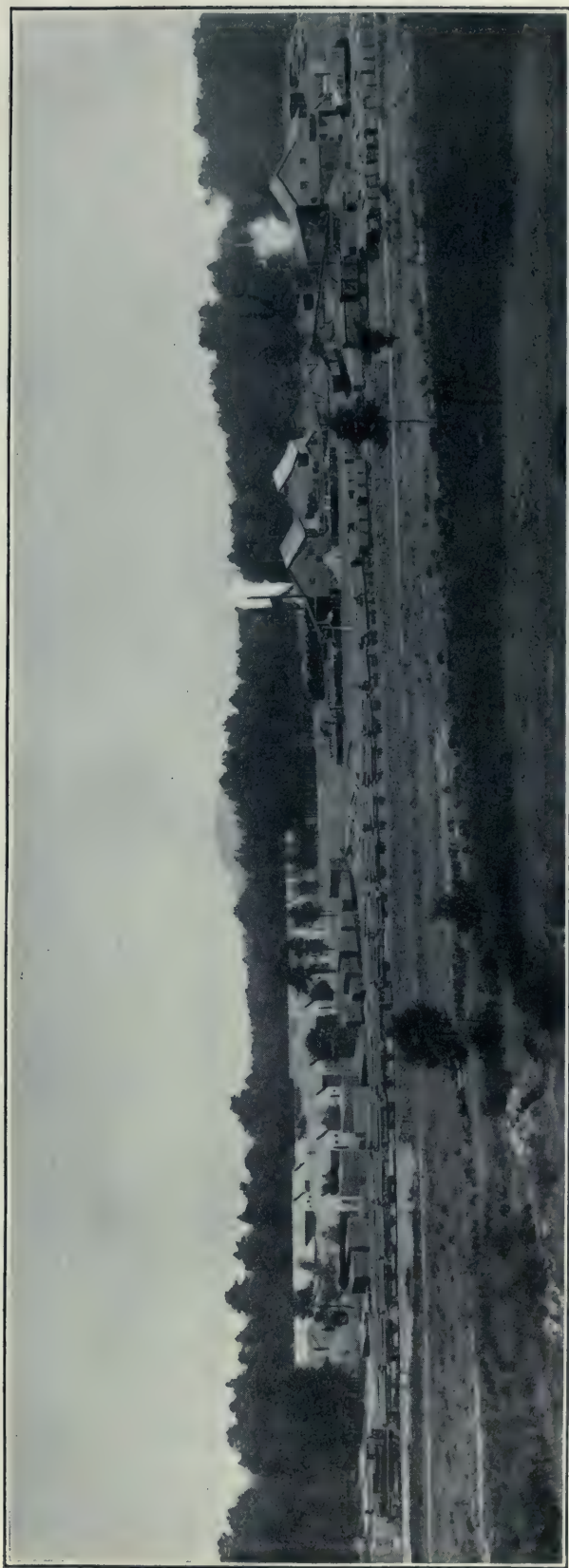
party of about 200 would leave for England at the end of the month bringing with them a portable mill. Eventually, however, a small advance party of two subalterns and 15 men was sent, followed about the middle of April by the first draft numbering some 400 all ranks under Lieut.-Col. McDougall, who arrived on the 28th April. The second and third drafts came soon after, and all had arrived by the end of May. On the 12th April, 1916, the advance party landed in England. Sawn lumber was actually produced in Britain by the Canadian Battalion on the 13th May, 1916 (an unlucky 13th for the Germans), so that within three months the Battalion was not only raised and fully equipped, but despatched to England with its machinery, and had produced lumber for the Imperial Government.

The circumstances which led the British Government to appeal for Canadian help arose out of the shortage of freight for munitions, food and other essential commodities, which began to make itself seriously felt during 1915, after the first year of War. In order to economise tonnage and provide timber for the Army, the British Government had decided to develop the Home Timber Industry, which before the War had only produced about 900,000 tons of timber, including pit-wood, as against an importation of about 11,500,000 tons. To carry out this policy, a Committee was appointed under the English Board of Agriculture, known as the Home-Grown Timber Committee, and this body quickly set to work by purchasing standing timber in various parts of Britain, and making arrangements for working it. By the latter part of 1915, the Home-Grown Timber Committee had found that its operations were very much handicapped by absence of the necessary labour, especially skilled labour. Very naturally, their thoughts turned to the Dominion where lumbering has been elevated to a fine art—although under very different conditions from those ruling in Britain. Fortunately, the Director of Forestry at Ottawa had met some of the Staff of the Home-Grown Timber Committee a short time before, and he was approached, the first suggestion being that men should be obtained from Canada for timber work on lines similar to those on which they had been recruited for munitions. It was felt better, however, to raise the men required as a Military body; and, as a result, the telegram above quoted was despatched.

It is difficult to conceive the multitude of ways in which timber was used for War purposes. At the Front, the Army very largely walked on timber, lorries drove on timber; railways, light and heavy, required huge numbers of sleepers or ties. Underground no less than above ground was timber used, for dugouts, and all the complicated contrivances connected with trench warfare. From huts to ammunition boxes, from duckboards to stakes for barbed wire, the uses of timber ranged. At home no less intense a demand was manifested for different purposes connected with the War, and it will suffice to mention that every factory and every locomotive and every coal fire in the country, as well as every ship in the Navy driven by steam, depended upon an adequate supply of Mining Timber, millions of tons of which were required every year. The need for the efforts of the Canadian Forestry, Corps will thus be sufficiently evident.

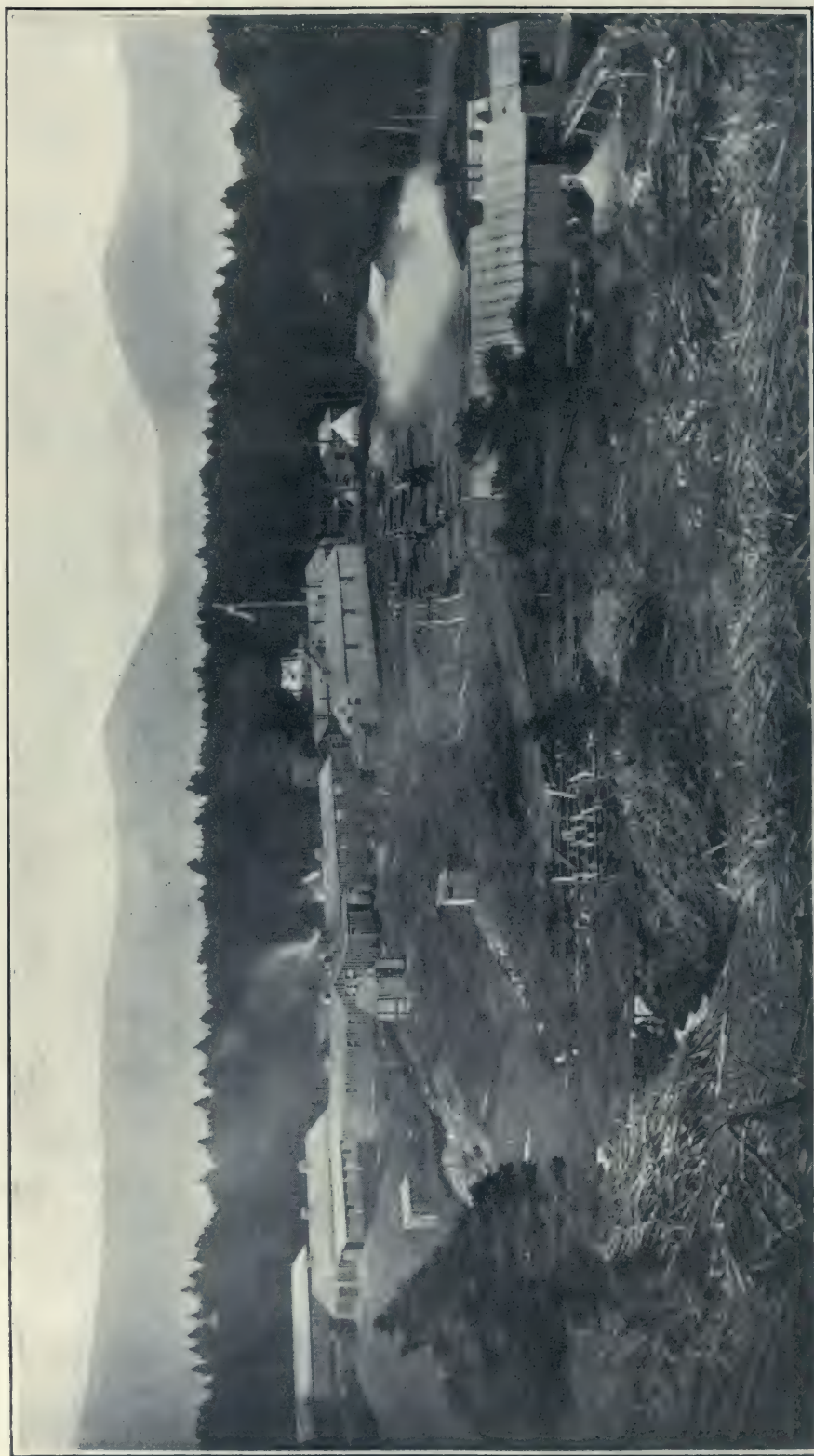
Equipment.—To save time, and for other reasons, it was arranged that the Canadians should bring with them their own machinery and equipment of the kind to which they were accustomed, with the necessary modifications to adapt it to the conditions in Britain. This matter of equipment is one on which a word of special praise is due, for the difference in the working conditions in England and Canada is so great that it required expert knowledge of the highest order to adapt quickly the Canadian lumbering plant and organisation to British needs. Not only was this done in double quick time, but the design of the equipment proved so satisfactory that very few changes have had to be made ever since.

Arrangements in Britain.—The Canadian lumbermen were somewhat of an unknown quantity to the timber-workers of Britain, and the conditions



No. 2.

A Camp in Hampshire, England.



A Camp in the Scottish Highlands.

of working in Britain were equally conjectural to many of the Canadians. It is not, then, to be wondered at that careful consideration was given to the question of the localities in which the men were to be employed. It was first suggested to put 100 men at Windsor and 100 in Scotland. Then, when the number of lumbermen immediately expected became larger, it was proposed to place 50 in the New Forest, 100 at Stover, in Devonshire, and 140 in Scotland. After various proposals had been made, it was settled that the first 400 should be concentrated in the South of England, to facilitate organisation. The small advance party already mentioned was sent to woods near Lyndhurst, in Hampshire; but the first main contingent of about 400 officers and men, and also the second party of about 500 officers and other ranks, were accommodated in the first instance at Larkhill Camp, near Aldershot. Similarly the third party of nearly 700 officers and men, which arrived at the end of May, 1916, were first taken to Bramshott Camp. From these Camps they were distributed to the areas in which suitable woods had been acquired. Lieut.-Col. McDougall's own Headquarters were first established at 4, The Sanctuary, Westminster, at the Offices of the Home-Grown Timber Committee, on the 5th May, 1916. Ten days later they were moved to 2, Millbank, Westminster, only a short distance away. Equipment had been coming forward at the same time as the men; the first consignment, for instance, comprised two sawmills, each of a capacity for cutting 15,000 sq. ft. in ten hours, together with ten logging wagons, four steam winch hoisting engines, four motor cars, one electric lighting plant, telephone outfit, tools, harness, metals and miscellaneous stores for 1,500 men. Eventually, the first actual lumbering operations were carried out at Virginia Water, and by the middle of June over 500 men were at work as follows:—

Virginia Water (near Egham, Surrey)	124
Rapley Lake (Bagshot, Surrey)	49
Norley Wood (Lymington, Hampshire)	71
Stover (Heathfield, near Newton Abbot, Devonshire) ..	217
Dalbeattie and Kirkconnell (Dumfriesshire, Scotland) ..	75

It was not long before the entire Battalion, numbering 1,609 officers and men, were hard at work exploiting British woods, and so helping to frustrate the Huns.

In connection with these and subsequent arrangements, the Canadians received great assistance from the Home-Grown Timber Committee, and particularly they appreciated the valuable advice and co-operation of the Director, Mr. John Sutherland, who was afterwards appointed Assistant Director of Forestry in France with the rank of Lieut.-Colonel, later Colonel.

CHAPTER II.

THE DEVELOPMENT OF THE CANADIAN FORESTRY CORPS.

More, please!—The subsequent history of the Canadians may be summarised by repeating “More”—“More”—and “More.” Events marched very rapidly, and as the prospects of finishing the War within a relatively short time diminished, so did the demand grow for the services of the Canadians to increase home production and assist in saving tonnage.

Hardly had the Canadians arrived in England when Lord Kitchener, realising their value, suggested that 500 of them should at once be transferred to France, with another 500 to follow, in order to fell and convert certain forests which the French Government had placed at British disposal. Lord Kitchener wrote personally on the 12th May, 1916, to the above effect to Lord Selborne (who was at that time at the head of the Board of Agriculture, and therefore of the Home-Grown Timber Committee), but Lord Selborne was unwilling to give up any of the Canadians who had so far arrived. German prisoners who had been offered to the Committee were by no means a substitute, apart from the disorganisation which would have resulted from the upsetting of the plans for accommodating the Canadians in Britain. Shortly before that, it had been proposed to increase the number of Canadians to 1,800, and it was now suggested to the War Office that the extra men who were expected might be devoted to work in France as soon as they arrived, and that more men should be recruited from Canada for work in France if necessary.

The 238th, 242nd, and 230th Battalions.—On the 19th May, 1916, a request was cabled to Ottawa for an additional 2,000 lumbermen, with plant, to assist in exploiting certain French forests. This was prefaced by an expression of keen appreciation of the Canadian Government's action in raising the first Battalion. The Canadian Government promptly agreed to raise the men, and arranged that they should be sent forward in small detachments, on account of the urgency of the case. Later, in June, 1916, the Canadian Minister of Militia proposed to raise the two new Forestry Battalions, each of about 1,000 men, to be designated the 238th and 242nd Forestry Battalions, the original first Battalion being known as the 224th. Early in November, 1916, it was arranged that another Battalion (the 230th) should be converted into a Forestry Battalion; but even this was insufficient, and on the 6th November a request for yet another 2,000 men was cabled, the suggestion being made that this should consist mainly of men unfit for combatant service. It was felt that a number of lumbermen scattered throughout the combatant forces of the Canadian Army could do better work as lumbermen owing to physical disabilities, such as defective eyesight, flat feet, etc.; also men over age could be employed. The following is an extract from Routine Orders by Major-General Sir R. E. W. Turner, V.C., General Officer Commanding Canadian Forces in Great Britain, dated the 8th December, 1916:—

“CANADIAN FORESTRY CORPS—TRANSFER OF TECHNICAL OFFICERS, N.C.O.'s AND MEN TO.

“Officers with the following technical qualifications will be permitted to transfer to the Canadian Forestry Corps: Actual experience in lumbering operations in its various branches, logging, manufacturing, shipping, grading, etc., also experience in the handling of men in construction work. Non-Commissioned Officers and Men who have experience as mill hands, logging foremen, sawyers, filers, saw hammerers, engineers, firemen, and all other branches of the Lumber Trade, felling, transport, manufacture and shipping of finished lumber.”

Officers were sent to the various reserve Canadian Bases throughout the United Kingdom for the purpose of selection, and the men chosen were despatched to the Base Depot of the Corps.



No. 4.

Felling in Scotland.



No. 5.

Carrying Logs by Ropeway across a River in Scotland.



No. 6.

Log Chute in Scotland.



No. 7.

Pole Track in Scotland.

At the end of November, the War Office enquired whether the 119th and the 156th Battalions might be made available to provide the 2,000 men asked for early in November, and at the same time asked that about 5,000 more Canadian lumbermen might be recruited, particularly French Canadians.

Purchases Ahead.—A point of outstanding interest during the year 1916 is to be found in the fact that in the month of October Colonel McDougall, after due consideration of the situation and with the advice of the Senior Officers of the Corps, purchased machinery and equipment for 10,000 men. This was done before the men were authorised, having in view the development of the submarine warfare and the fact that the greatest saving had to be made in timber imports. Later events proved that the purchase was justified, so much so, in fact, that had it not been made at the time it is open to doubt whether France or Great Britain could have provided the timber their woods were ultimately caused to yield during the war.

Company Organisation Adopted.—Meanwhile the organisation of the Canadians in Battalions was modified by breaking up the Battalions into Companies, each forming a complete Unit, and the whole of the Canadian lumbermen in Britain and France were placed under Col. McDougall as Director of Canadian Timber Operations. This decision was formally notified by the Canadian Minister of Militia early in November. The Company organisation has continued ever since. The strength of the Corps at the end of 1916 was as follows :—

Great Britain ..	Officers, 103.	Other Ranks, 2,303.
France	Officers, 30.	Other Ranks, 602.

At the close of that year 11 Companies were operating in Great Britain and three in France.

On the 6th January, 1917, a proposed Establishment for the Canadian Forestry Corps was approved by the War Office, based upon the result of the experience gained during the preceding three months. (Order No. 477. W.E., Part XVI., dated War Office (S.D.2), February 22nd, 1917).

This in turn was superseded by Order No. 880, W.E., Part XVI., dated War Office (S.D.2), 5th December, 1917, which provided for :—

- Directorate of Timber Operations, Great Britain and France.
- Directorate of Timber Operations, Great Britain.
- Directorate of Timber Operations, France.
- Audit and Accounting Department, Great Britain and France.
- Forestry Branch, Great Britain and France.
- Forestry Branch, Paris Detachment.
- Mechanical Branch, Great Britain.
- Technical Equipment and Supplies Branch, Great Britain and France.
- Technical Warehouse, Great Britain.
- Technical Warehouse, France.
- Transport Department, Great Britain and France.
- District Headquarters, Great Britain and France.
- Group Headquarters, France.
- Forestry Company, Great Britain and France.
- District Workshops, France.
- Base Depot, Great Britain.

At the close of hostilities the numbers had grown to 41 Companies working in Britain and 60 Companies in France, a total of some 17,000 men, to which must be added attached personnel, such as Canadian Army Service Corps, Canadian Army Medical Corps, etc., and also Prisoners of War, bringing the total up to approximately 33,000.

On the 6th January, 1917, a Base Depot for the Corps was commenced at Smith's Lawn, Sunningdale, Berks., within the confines of Windsor Great Park. This site was given to the Corps by His Majesty the King, and a full account of the Depot will be found in a later chapter.

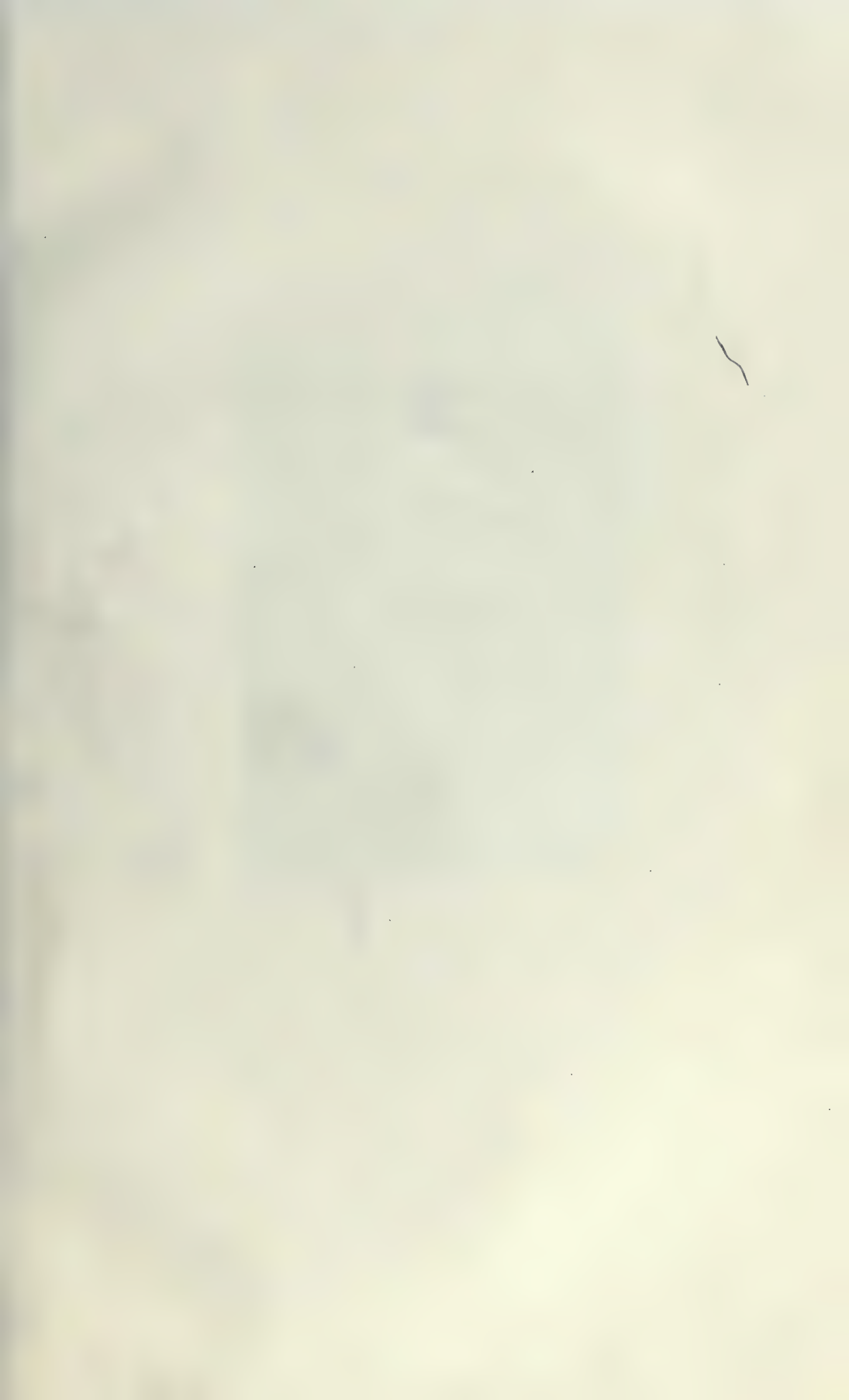
The Headquarters were moved first to 54, Victoria Street, in October, 1916, and afterwards to 23, Swallow Street, Piccadilly, W., where they remained at the conclusion of hostilities.

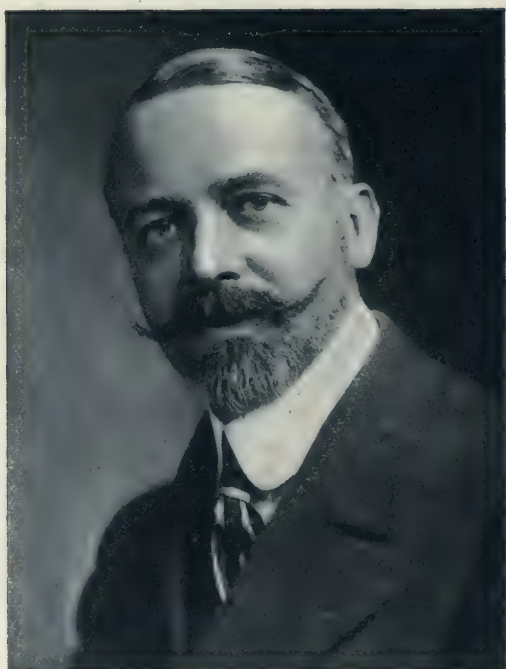
Financial Relations with the Imperial Government.—In the original request for help in the shape of a Canadian Lumber Battalion, the British Government had offered to arrange the incidence of the cost as agreeable to the Canadian Government. Naturally the provision of the ordinary military outfit of the men in Canada and the purchase of the Canadian machinery which was sent over was undertaken by the Canadian Authorities. Similarly the provision of accommodation and food was undertaken in Britain by the War Office. Everybody concerned was far too busy getting on with the work to stop to discuss details of payment. It was not until the end of 1916 that this matter was definitely settled by the Canadian Government most generously agreeing to bear the cost of Pay, Pensions and Allowances to the Canadian Units employed in this work, as well as their initial personal equipment and the cost of transporting them to this country, while all their expenses of every other kind connected with their equipment, work or maintenance were to be borne by the Imperial Government. This arrangement was confirmed by Sir George Perley on behalf of the Canadian Government in a letter dated 17th January, 1917, in which he says that the arrangement appears to be eminently fair and reasonable to both sides. The provision of the equipment required from time to time by the Canadians has been arranged by their technical branch through the British Timber Supply Department, for the requirements of the operations both in Britain and in France. A large part has been made by the Corps in its own machine shops.

Col. McDougall's Report on French Operations.—To return to the earlier period in May, 1916, when the proposal was first made that Canadians should be employed in France, it was suggested that some of the officers in charge of the Canadian technical operations should in the first place proceed to France and report on the nature and scope of the work to be done, and the technical plant required. Further suggestions were made with regard to obtaining and training men and as to the organisation of all the Canadian lumbering operations in Europe under one Headquarters. These suggestions were conveyed to Lord Kitchener, and early in June it was arranged that Col. McDougall should go to France himself, which he did on the 7th of that month, accompanied by two other officers. His Report, dated the 23rd June, 1916, was both interesting and valuable. It is referred to later in greater detail in describing the French operations, but is so important that a brief summary may be given here. He pointed out the necessity of acquiring pine forests in France besides the beech woods that were being worked, drew attention to various defects in the existing organisation, which had been improvised under considerable stress, and suggested closer co-operation between the Departments supplying timber in England and France, so that no timber would be imported which could be obtained from French forests. He also proposed that the Lumbermen's Battalions should all be controlled from London, and made recommendations as to the equipping and organising of the Battalions which were then being raised in Canada.

This Report marks a turning point in the history of the Canadian Forestry Corps. It naturally gave rise to considerable discussion, one proposal being that a committee should be set up in London representing the different departments interested, by whom all demands for timber for Government purposes should be considered. Subsequently it was arranged that one Canadian Forestry Battalion should be allocated to work for the French Armies, half the timber produced being delivered to the British.

The War Timber Commission.—At length a new body was set up, with Headquarters at H.M. Office of Works, London, known as the War Timber Commission, in accordance with a Convention dated the 15th November, 1916,





No. 8.

SIR JAMES B. BALL, M.Inst. C.E., etc.
Controller of Timber Supplies, Board of Trade.

between the British and French Governments. A most important feature of this arrangement was that the French Government agreed to the working by Canadian lumbermen of forests in districts remote from the zone of the Armies, this enabling more suitable timber to be worked than could be found in rear of the British lines. The whole of the Canadian operations, as previously indicated, were at this time put under Lieut.-Col. McDougall as Director of Canadian Timber Operations, and he was given the rank of (Temp.) Colonel. Directions as to what timber he should endeavour to produce in each country were to be received from the War Timber Commission. This Commission comprised Representatives of the Office of Works, the French War Ministry and the Belgian War Ministry, also of the British War Office and Admiralty, the French Ministry of Agriculture, the Home-Grown Timber Committee, the British Quartermaster-General's Department, and of the 4th Bureau of the French Staff.

The Timber Supply Department.—The progress of events, however, led to further modifications of this arrangement. The introduction of unrestricted submarine warfare and the possible continuation of the War for an indefinite period caused the timber position early in 1917 to give rise to serious apprehensions owing to the urgency of further restricting the tonnage available for importing timber. In February, 1917, the War Office pointed out to the British Commander-in-Chief in France the difficulties in obtaining supplies for the Armies from Scandinavia, the White Sea and North America, and drew attention to the volume of other more necessary traffic. It was urged that every possible economy in timber should be exercised, and that any men who could be spared should be put to work in French forests. At the same time it was decided to create a new Department of Timber Supplies at the War Office whose functions would be to supply, as far as possible, the timber demanded for the Armies in France; to control the use of timber in the United Kingdom and to induce economy, while stimulating to the utmost home production, and at the same time to regulate the purchase of such timber as might be imported. Of this Department, Sir Bampfylde Fuller, K.C.S.I., K.C.I.E., was appointed Director. It took over the functions of the Home-Grown Timber Committee in respect of home production, and with them the task of providing woods and making arrangements for the Canadian lumbermen working in Britain. The War Office suggested that a special Officer should be appointed by the Commander-in-Chief of the British Armies in France to bring under one control the forestry operations carried on by the Director of Works and the Director of Canadian Lumber Operations in France. As a result, Lord Lovat was appointed as Director of Forestry in France, but the control of the Canadians in France working under his Directorate continued to be carried on by Col. McDougall from London. The Commander-in-Chief now replaced the War Timber Commission as the source of directions to the Canadians in France as to what they should cut, and made allowance for their production when making demands upon Great Britain for timber.

Early in March, 1917, Sir George Perley was able to convey to Lord Derby the welcome intelligence that a large number of lumbermen would be coming out from the woods in Canada after the middle of the month, and that it might be possible to raise perhaps 2,000 men more than had been asked for. Needless to say, this suggestion was accepted by Sir Bampfylde Fuller, the Director of Timber Supplies, and it came at a fortunate time, for at the end of March Lord Lovat, the Director of Forestry in France, intimated that he would at once be requiring three more Companies, and another a few weeks later, for working the Jura and Conches areas, as well as possibly a further four Companies for the Bordeaux district. It had been agreed with Lord Lovat that up to 5,000 officers and men of the Canadian Forestry Corps in all should be transferred to France. At the date of the agreement there were about 1,000 officers and men in France and 4,000 in the United Kingdom, and in addition 7,000 men were, it was understood, being recruited in Canada, all of whom were

to be employed in Britain. By the middle of March, 1917, there were at work in France 66 officers and 1,895 men, while in Britain, including men at the Base and Headquarters, there were 102 officers and 3,661 men. Sir Bampfylde Fuller paid a well-deserved compliment to their efficiency when, on the 22nd May, 1917, he wrote saying, among other things, that the Canadians "are, of course, a timber-getters, infinitely more efficient than any other agency which is at the country's disposal." It is only fair to add that this statement was made before the arrival of other overseas lumbering units, or the expansion of the native timber industry that occurred in 1917 and 1918.

The programme in regard to further Companies provided for 56 Companies in France, of whom 20 had been sent over by the third week in May. The others were to be sent forward at the rate of about 10 Companies a month, so that by September the quota would be made up to about 10,000 men.

A similar programme was arranged in June, 1917, for Great Britain providing for a strength of 40 Companies, numbering in all about 7,000 men. In view of the great urgency of the demand for timber, it was arranged that the Canadians in Great Britain should be assisted by parties of unskilled labourers that day and night shifts should be worked, and that to save time 10 surplus mills should be provided which could be erected ahead of the men by a special body of Canadians.

To make up the total of 17,000 men for Britain and France, of whom about 11,000 were then at work, there were 2,000 still to come from Canada under previous arrangements, and it was hoped to obtain another 2,500. The balance of 1,500 men it was proposed should be made up of men of the Canadian Forces unfit for front-line combatant service.

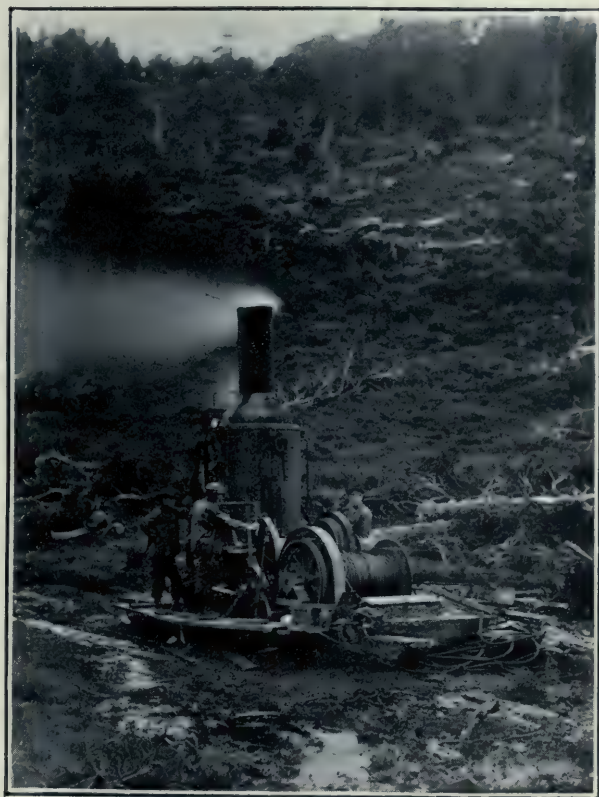
In the sequel, both these programmes were carried out, and at the conclusion of the Armistice the 60 Companies in France and 41 Companies in Britain were hard at work helping to defeat the Germans no less than if they had been in the fighting line. It is a notable feature of the Canadian Forestry Corps that a large number of the officers and men composing it were either not within the military age limits or were unfitted for service in the fighting line.

The expansion of the operations was marked by the promotion of Col. McDougall to Brigadier-General from 1st April, 1917, and on June 24th he was made Director-General of Timber Operations in Great Britain and France. On 20th December, 1918, he became Major-General.

In May, 1917, the Timber Supply Department had been transferred to the Board of Trade, and a new Controller appointed in the person of Mr. (now Sir) J. B. Ball, M.Inst.C.E. M.Inst.M.E., with whom the Canadian Forestry Corps have worked in the utmost harmony. To assist in keeping touch, a number of Liaison Officers were appointed in charge of Major G. L. Courthorpe, M.C., M.P., one of the Assistant Controllers of the Timber Supply Department. One of these officers has been stationed in each of the districts in Britain into which the Canadians have divided their operations, for administrative purposes, and these officers have proved very useful in adjusting minor matters and maintaining close co-operation. Major Courthorpe is himself a leading authority on Forestry questions, and is President of the English Forestry Association and of the Royal English Arboricultural Society.

Output Policy.—When the Canadians first started their operations the situation was so serious that it was necessary for them to devote all their energies to getting the biggest possible output. All concerned have fully realised that this would only be achieved at some sacrifice of quality. Day and night were the Canadian mills kept running, so great was the demand. This has to be borne in mind when comparing their methods and results, either with the ordinary commercial methods of the English or Scotch timber merchants, or with normal Canadian practice.

In February, 1918, the Corps was called upon to meet an urgent demand for lumber at the Front, and in connection with this the following is a text



No. 9. Donkey Engine at work in Scotland.



No. 10.

Rail Loading Station in Scotland.



No. 11.

Piling Logs in Scotland.

of the letter written on April 12th, 1918, by the Rt. Hon. The Earl of Derby, Secretary of State for War, to Sir Edward Kemp :—

" I am writing this letter to let you know on behalf of His Majesty's Government, how warmly they appreciate the splendid work done by the Canadian Forestry Corps in connection with the urgent demand which was received early in February last for some 40,000 tons of timber to be sent to the Front. This was an unexpected demand, and it was requested that delivery should be completed not later than the 31st March. Shipment was commenced from the 10th February, and the whole order was completed on the 20th March, eleven days ahead of the specified time.

" I am informed that this satisfactory result is mainly to be attributed to the energy put into the work of production by the Canadian Forestry Corps, who supplied no less than 34,000 tons of the total. When the Corps understood that it was an order of urgency, and that the material was required for the Front, many of the Companies voluntarily worked long hours without any extra pay, some of them doing as much as 90 hours per week. They were at work during the whole of the Easter holidays, so that had any further demand been made at that time, it would have been possible to deal with it.

" It is, as you are no doubt aware, largely due to the operations of the Units of this Corps in France that we have, with the exception of sudden and unforeseen demands such as the present one, practically stopped the shipment of British-grown timber to France, thus saving cross-channel tonnage ; while we are also enabled to save the shipment of foreign timber by having the production of the Corps in England to meet the various national demands.

" I hope that the Canadian Forestry Corps will realise the real gratitude which we feel for their admirable work, and for the spirit which they have shown throughout in sparing no exertions whenever an opportunity has been afforded them of assisting the fighting men at the Front."

At length matters improved, and to the relief of all concerned the Controller of Timber Supplies in June, 1918, was able to ask General McDougall to substitute quality of output for quantity as the great desideratum. Sir James Ball's letter is as follows :—

" Referring to our meeting yesterday regarding future output of the Canadian Forestry Corps, I confirm that, in view of the difficulty in obtaining additional labour to supplement that of the Corps and in the altered circumstances, it is necessary to change the policy which has hitherto been carried out, and pay attention to the quality of manufacture rather than the quantity. It will also be necessary for the Corps to do more of the unskilled work than hitherto, which will, no doubt, be an improvement in respect of the manner in which it is done.

" In view of the importance of saving tonnage for pitwood, I also expressed my desire that the Canadian Forestry Corps would include pitwood in their output.

" I do not think at present it is necessary for night work to be continued, and I understand that you will arrange for it to be stopped.

" I should like to take this opportunity of putting definitely on record my appreciation of the work of the Corps under your most able direction. This work is specially noteworthy, inasmuch as we have allotted to your Corps operations which are both inaccessible and difficult. Your Corps, by reason of their experience and engineering training, were in a better position to handle such undertakings, especially those of very large size, than were the officers working directly under this Department, and the results of your work have justified the high expectations formed of them. To regard these results from a purely commercial standpoint is quite impossible in view of the exceptional circumstances in which they were undertaken, coupled with the fact that the output has never hitherto been regulated on a commercial basis, but according to the exigencies of the situation as affecting the demands for timber for Military and other purposes thrown upon the Department.

" In conveying the change of policy to your officers and men, I trust you will intimate to them my satisfaction with the work they have performed and my reliance upon their future efforts being no less strenuous and successful than those of the past."

Early in April, 1918, a demand was made upon the Corps for 500 men for the Infantry. Volunteers were asked for, and the number offering far exceeded the demand. Altogether the Corps sent to Infantry battalions 1,270 men.

Musketry training was also taken up by the Corps at this juncture, so that the men would know how to use a rifle should they be called upon so to do.

The whole Corps, at the time of the German advance in 1918, volunteered to serve as Engineers ; pointing out that its personnel was of such a nature as to qualify it for engineering work. Happily for timber production, however, it was found possible to leave the Corps to its proper work.

Work on Aerodromes.—The Canadians have shown their usefulness in other directions besides the mere felling and converting of straightforward

masses of woods. On the 16th September, 1916, the Corps was asked by the Home Defence Wing of the Royal Flying Corps for their assistance in the matter of clearing land in various parts of Great Britain for the purpose of preparing landing grounds, and 12 days after receipt of this communication a detachment was at work clearing a site for an aerodrome at Northolt, in the County of Middlesex, England. This branch of the work undertaken by the Forestry Corps grew with great rapidity, and eventually the Corps undertook work on the construction of aerodromes throughout the length and breadth of Great Britain. Companies were formed, and split up into detachments varying in strength, and the work consisted of clearing sites, ditching, draining, trimming and felling trees, hauling gravel, levelling, making conduits and drains, grading, ploughing, scraping, filling depressions, uprooting hedges, re-sodding, cutting pickets, stripping turf, etc.

Towards the end of 1916 a letter was received from the Home Defence Wing of the Royal Flying Corps to the effect that they felt that the services rendered by the Forestry Corps were such as to increase the efficiency of the Flying Corps in Great Britain, and were a direct means of assistance in defeating raiding Zeppelins.

In the summer of 1917 the Air Board invited the assistance of the Canadian Forestry Corps for similar work, and a few months later the establishment of two Forestry Corps Aerodrome Companies was authorised. Nos. 123 and 124 Companies were allotted for this work, assisted a little later by labourers from the Royal Flying Corps. At the end of 1917 a number of companies proceeded to France for similar work, described in Chapter V. At times, no less than 32 detachments were engaged on aerodrome construction in different parts of England extending from the north of Scotland to Cornwall; to take one example, a party of about 40 men were sent to a site in Sussex in February, 1918, and within 20 working days had completed the work laid down for them; forthwith the party was transferred to another area, which in this case happened to be on the East Coast of Scotland. The 20 days' work included 4,400 cubic yards of excavation and filling, 13,840 yards of grading, with about three acres of steam-rolling, as well as the erection of a number of Bessoneau hangars. Each party made its own camp, erected its own huts and tents, attended to its own transport and other arrangements. Two machine shops were established for this work, one at Grantham and the other at Reading, where all the equipment such as ploughs, scrapers, turning and cutting machines, etc., were manufactured. In addition, implements were made for use on similar work in France and Flanders. In all, during 20 months' work for the Air Board, some 110 aerodromes were constructed and improved, an average of 435 of all ranks being engaged on the work with 135 horses. It is interesting to note that the work was performed very cheaply.

In the earliest stages of aerodrome construction, the Canadian Forestry Corps detachments worked independently and reported direct to Headquarters. Afterwards they were incorporated into No. 54 District, but as the work progressed and extended, it was found necessary to form them into a District, which was authorised on August 16th, 1918, and was known as No. 56, with Headquarters at East Sheen, Surrey.

From Cyprus to Ireland.—Towards the end of 1917 the possibility of getting timber from the Island of Cyprus was being considered. Here, again, it was proposed to invoke the aid of the Canadians, and, to provide an expert opinion, officers were sent out to report. On the way they were torpedoed twice, but duly arrived and reported. Eventually the project was dropped.

Had hostilities continued, it is most probable that the Corps would also have extended its work to Ireland, for arrangements to that end were well in hand when the conclusion of the Armistice rendered them unnecessary.



No. 12.

BRIG.-GENERAL B. R. HEPBURN, C.M.G., M.P.,
Deputy Director-General Timber Operations

CHAPTER III.

SOME MAKERS OF THE CANADIAN FORESTRY CORPS.

Maj.-Gen. ALEXANDER McDougall, C.B. (*Director-General*).

Brig.-Gen. B. R. HEPBURN, C.M.G., M.P. (Canada) (*Deputy Director-General*).

Col. G. V. WHITE, C.B.E. (*Director of Timber Operations in Great Britain*).

Brig.-Gen. J. B. WHITE, D.S.O. (*Director of Timber Operations in France*).

Lieut.-Col. D. B. CAMPBELL, M.B.E. (*Chief of Technical Staff*).

Maj.-Gen. Alexander McDougall, C.B. (Director-General of Timber Operations).—When the Canadian Government first undertook to raise a Lumbermen's Battalion, they were fortunate in being able to put their hand on just the right man to command it, in the person of Alexander McDougall, whose wide experience under varied conditions, and power of organisation, were well known throughout the Dominion. To him in no small measure is undoubtedly due the great success which has attended the work of the Canadian Forestry Corps. Born in Renfrew, Ontario, in January, 1878, he is the son of J. Lorne McDougall (who was at one time Auditor-General for Canada) and Marion Morris. Educated at Ottawa, Toronto and Cornell, he graduated in Civil Engineering, and was Gold Medallist at Toronto University in Mathematics. He was first employed by a Contractor, M. P. Davis, as an Engineer in connection with the abutments of the first Quebec Bridge; afterwards he went to Mexico as a Civil Engineer on the Mexican Light and Power Co. Returning to Canada, he was appointed Engineer for the Ottawa Section of the Georgian Bay Ship Canal. He then entered into partnership with John B. McCrae, with the title of the firm as McDougall & McCrae, Consulting Engineers, Ottawa. During his partnership with McCrae he was retained as Consulting Engineer for the Canadian Government. In 1907 he formed the Eastern Construction Company, Ltd., of which he was Managing Director. This Company took over contracts in the Rainy River district for the construction of a section of the Transcontinental Railroad. In 1909 he entered into partnership with his brother, S. McDougall, and M. J. O'Brien, of Renfrew—the firm being known as O'Brien & McDougall Bros., Railroad Contractors. He is also a partner in the firm of O'Brien, McDougall & O'Gorman, Railroad Contractors. In the year 1900 he married Miss Florence Chipman, of Waterbury, Connecticut, U.S.A., and they have two sons. On the 25th February, 1916, he was appointed Officer Commanding 224th Canadian Forestry Battalion, with the rank of Lieut.-Colonel. With the expansion and progress of the Canadian Lumbermen came his promotion until, on the 28th September, he was appointed Temporary Colonel, and Director of Timber Operations in Great Britain and France. On the 1st April, 1917, he was appointed Brigadier-General; on the 24th June he became Director-General of Timber Operations, Great Britain and France. In the King's New Year Honours, 1918, he was awarded the decoration of Companion of the Most Honourable Order of the Bath (C.B.), and a few months later the French Legion d'Honneur. On 20th December, 1918, he became Major General.

Brig.-Gen. William Bernard Rickart Hepburn, C.M.G., M.P. (Deputy Director-General of Timber Operations).—Born in Picton, Ontario, the 26th May, 1876, he is the son of Arthur William Hepburn (for many years engaged in steamboat business on the Bay of Quinte, St. Lawrence River and Lake Ontario) and Katherine Maria McCuaig, whose father, James S. McCuaig, was Conservative Member of the House of Commons, representing Prince Edward County, 1878-1882. Educated in Public and High Schools, Picton, and Trinity College

School, Port Hope, Ontario, he began his career as Purser with the Ontario and Quebec Navigation Company, Picton, 1894; was appointed General Manager of the business, 1904; President and General Manager, 1907. This business was in 1913 merged with the Canada Steamship Lines, Ltd.; President, Hepburn Bros., Ltd., Montreal. At the General Election in 1911 he was elected to the Canadian House of Commons, representing Prince Edward County, and was re-elected Conservative Unionist Member during his absence in England, December, 1917, by a large majority. He joined the 224th Battalion (first Forestry Battalion) as Major in the spring of 1916. As further Forestry Battalions were recruited, Col. Hepburn's duties were enlarged, and he has practically been in charge of the detail work of the Corps, his duties taking him frequently to France and different parts of England and Scotland. On New Year's Day, 1918, he was given the distinguished honour of being made a Commander of the Order of St. Michael and St. George. He married Bertha E. Wright, daughter of J. B. Wright, San Francisco, California, the 15th February, 1901.

Col. Gerald Verner White, C.B.E., Director of Timber Operations, Great Britain.—Born in Pembroke, Ontario, 6th July, 1879, he is the son of the late Hon. Peter White, P.C., M.P. (who represented the constituency of North Renfrew, Ontario, in the Canadian House of Commons, 1874-1896 and 1904-1906, and was Speaker of the House, 1891-1896), and Janet Reid Thomson. Educated at Pembroke Public and High Schools and McGill University, Montreal, he graduated as Bachelor of Applied Science in Mining Engineering, McGill University, 1901. He was employed as Assistant Mining Engineer by the Canadian Pacific Railway Company in examination of Iron Ore Deposits at Kitchener, B.C., May-December, 1901, and in Mineral Department of Dominion Iron and Steel Company, Sydney, N.S., May, 1902-1903. Engaged in lumber business, 1904-1916, becoming Director of the Pembroke Lumber Company. He was elected to the Canadian House of Commons as Representative for the constituency of North Renfrew, Ontario, in October, 1906, at a Bye-Election occasioned by the death of his father, and was re-elected at General Elections in 1908 and 1911, but was not a candidate in the General Election of 1917. His military service is of considerable duration. After being Lieutenant, 42nd Regiment, Lanark and Renfrew, 1904-1910, and Captain in the same Regiment, 1910-1915 (holding a Field Officer's Certificate), he enlisted for Overseas Service in November, 1915, and was appointed Second in Command, 130th Battalion, C.E.F., with the rank of Major. Upon the formation of the 224th Canadian Forestry Battalion in February, 1916, was offered and accepted appointment of Second in Command, and proceeded overseas in May, 1916.

Appointed O.C., 224th Canadian Forestry Battalion, September, 1916, he subsequently became Director of Timber Operations for Great Britain, having charge of all Canadian Forestry Corps operations in the British Isles.

He received the honour of Commander of the Order of the British Empire at the New Year, 1918. He married Mary Elizabeth Trites, daughter of D. L. Trites, Petitcodiac, N.B., August 15th, 1906.

Brig.-Gen. John Burton White, D.S.O., Director of Timber Operations, France.—Born at Aylmer Road, Province of Quebec, 1st January, 1874, the son of Henry White, he was educated at Public and High Schools and Ottawa Business College, and then went into the lumber business. He has been Manager for the Hill Lumber Company; Manager, G. H. Perley and Company; Manager, Wood Department and Sawmills, and Director of the Riordon Pulp and Paper Company; and Director of the Canadian Forestry Association. A Major in the 17th D.Y.R.C. Hussars, he commanded "B" Squadron, and left Canada, 16th April, 1916, as Major in 224th Canadian Forestry Battalion. Returning to Canada, 16th July, he raised and commanded 242nd Battalion with the rank of Lieut.-Colonel. He was appointed Director of Timber Operations (France), 14th June, 1917, having charge of all C.F.C. operations



No. 13.

COLONEL G. V. WHITE, C.B.E.,
Director Timber Operations, Great Britain.



No. 14.

BRIG.-GENERAL J. B. WHITE, D.S.O.,
Director Timber Operations, France.

in France. He received the Distinguished Service Order, 1st January, 1918. He married Margaret Jane Ferguson, 18th April, 1906.

Lieut.-Col. David Bishop Campbell, M.B.E., Chief of Technical Staff.—Born in Scotland on 18th August, 1880, he was educated at Glasgow and Technical College, Portland, Oregon. He engaged in the lumber manufacturing business, and resided in Vancouver for 14 years.

From 1908 he carried on private business as a Mill Architect and Engineer, dealing exclusively with Saw Mill and Wood Working plant, and designing new machinery of various types. A great many of these machines are now in use in British Columbia, such as labour-saving devices for handling lumber in the mills, shingle machines, and machines for preparing shingle timber.

He enlisted in 224th Battalion in March, 1916, coming to England in May of the same year. Was promoted to the rank of Captain in August, 1916, to Major in March, 1917, and Lieut.-Colonel, December, 1917. He received the M.B.E. in February, 1918, in the New Year's Honours List.

CHAPTER IV.

OPERATIONS IN GREAT BRITAIN.

Work at Windsor.—We have already seen that the Canadians who first arrived in May, 1916, were drafted from Base Camps in the South of England to various woods selected for them to operate in different parts of the country. The same course was followed with successive arrivals, the number of operations increasing steadily. At an early stage the Canadians were drafted out by Companies, each Company running one or several operations near together. The Battalion organisation thus became practically a Company organisation, although the change was not officially recognised until November, 1916. In all, the Canadians have tackled over 70 different operations in Britain, a list of these being given later.

The Canadians, as experts, have often been entrusted with difficult jobs, that is to say, the working of lots of timber in inaccessible positions, at a distance it may be, from railways—propositions too large or unremunerative for the British timber merchant to exploit with sufficient rapidity to meet the urgent needs of the timber position. This was not merely out of compliment to the Canadians; it has to be remembered that the Home-Grown Timber Committee, with whom the Canadians were at first working, was set up in order to supplement the utmost that the timber trade could do. Naturally, then, the Canadians, as an organised and expert body, were given large areas where comprehensive methods could be adopted. Some typical examples will now be described.

We may well begin with those in the neighbourhood of the Royal town of Windsor. It was here that the Canadians produced their first British lumber, on 13th May, 1916—less than four months after the British Government first asked for a Lumbermen's Battalion. In the *Times* newspaper of 10th July, 1916, a description of the work of the Canadians at Windsor was given from which we cannot do better than quote. The article was headed "Yeomen of the Axe," and read as follows:—

"If you would know the lumberman of Canada and how he works, go to the edge of Windsor Great Park where the cross-road from Virginia Water Station strikes the main road between Egham and Sunningdale. There, on the Clock Case Plantation, you will see over 150 men of the 224th Canadian Forestry Battalion converting trees into railway sleepers and boards at the rate of anything from 15,000 to 20,000 board feet a day.

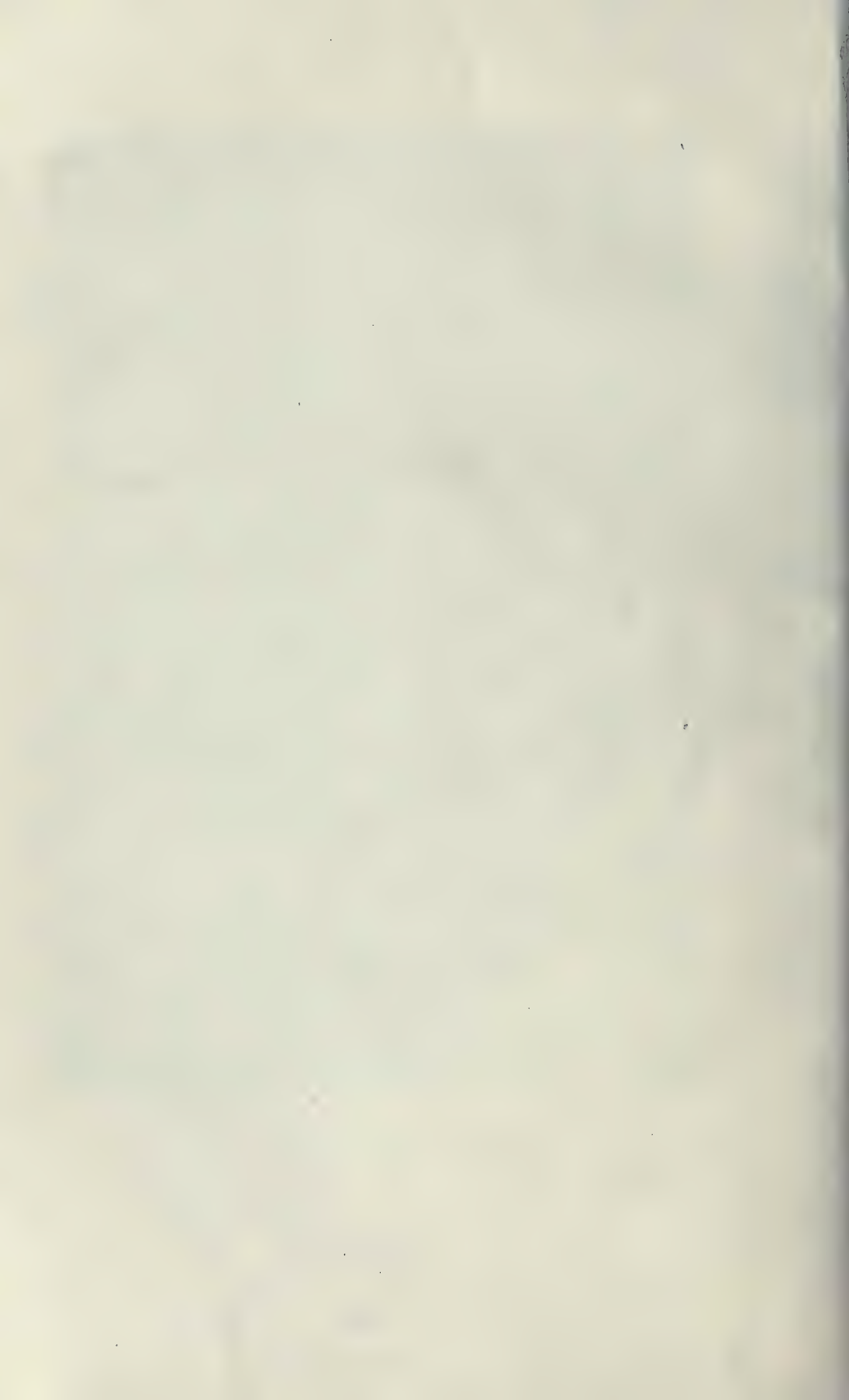
"The plantation, which forms part of the lands owned by the Crown and administered by the Commissioners of Woods and Forests, included a considerable area covered with spruce, fir, Scots pine and larch, with an undergrowth of chestnut. Not very long ago a party of experts looked at the trees with the dispassionate measuring eye of the undertaker, and gave it as their opinion that from this wood it was possible to get 3,000,000 board feet of timber. To-day, whole tracts of it have been swept clear by the axe, and the quaint square tower of the old Royal lodge, which stands deep-set in the wood, and which, so the story goes, by its resemblance to the case of a grandfather's clock gave the plantation its curious name, is visible from the roadway for the first time, perhaps, in a hundred years. And still the Canadian woodsmen go on, eating their way through the wood with a thoroughness that knows no mercy.

"The lumber camp is all Canadian—men, machinery and methods. The men, who are drawn from all parts of the Dominion, have the bronzed, healthy look and the easy, confident swing which we have learned to look for in Canadians. The khaki under their blue overalls proclaims them soldiers; they draw military pay and they know the rudiments of military drill; but first and last they are woodsmen with their craft at their finger-tips. Every man knows his task and does it with an enviable independence of orders or instructions; yet from the first stage to the last the work proceeds smoothly and harmoniously. Let us follow the process, under the guidance of the officer in charge and the sergeant who is 'foreman of the bush.'



No. 15.

LIEUT.-COLONEL D. B. CAMPBELL, M.B.E.
Chief of Technical Staff.



"Facing the main road stands the mill—'home,' the men generally call it—flanked on the one side by piles of logs and on the other by stacks of sawn timber. Walk along the winding track of a light railway, not yet completed, which passes behind the mill, until you come to a clearing, where burning heaps of 'brush' lopped from the tops of the fallen trees are filling the air with the refreshing scent of the pine. Here and there through the blue smoke you catch a glimpse of a lumberman in a picturesque slouch hat. A little further and you are among a gang of 'fallers.' Watch how they fell a tree, 20 in. or more thick at the base.

"A man with an axe kneels at its foot and with a few dexterous strokes cuts a deep notch in the trunk a few inches from the ground. Two others with a cross-cut saw cut through the stem on the opposite side. In half a minute the tree begins to lean and there is a warning shout. A second or two later, with a loud cracking and rending sound, it topples and crashes to the ground. Without any apparent effort, the 'fallers' have controlled the direction of its fall almost to a foot.

"Next, without any ado, half-a-dozen 'swampers' set to work with the axe, clearing the limbs and straightening up the tree. Simultaneously a 'fitter,' with a wooden rod, divides the stem in suitable lengths, marking the cutting points with a notch; while two other men, one carrying a paint-pot, measure the tree, enter the size in a book, and mark the stump and the butt of the severed trunk with a blob of red paint to show that their work is done. Sawyers then cut the stem according to the 'fitter's' marking, and the sections are ready to go to the mill. They are dragged there by horses over deeply scored 'trails' and 'sloopways,' and take their turn to come under the saw.

"The mill itself is a stoutly-built structure, made of timber cut and prepared on the spot, the saws and engines coming from Canada. It is practically a raised platform covered by an iron roof, but open at the sides. A log to be sawn is rolled into position on a 'carriage,' which moves backwards and forwards to carry it through a circular saw. Two men, standing on the carriage, control its movements and the position of the log by a number of levers. Opposite them stands the most important man of all, the 'sawyer,' whose trained eye sees at a glance what can be made of this or that log. The hum of the engine and the screech of the saw would drown his voice, so he gives his decisions by signs. As the carriage brings a log back through the saw with the bark removed, he will hold up one finger or two, and the 'setter' on the carriage, by the movement of a lever, adjusts the log so that the next cut shall be one inch or two inches thick.

"It is all done without a pause. For hours the saw screeches and throws off a spray of sawdust as it slices up the logs that a short while before were splendid living trees, and all the while other saws, trimming the edges of the boards and cutting off the ends, join in the chorus. Is it surprising that the daughter of the keeper of the wood was reduced to tears when she stood by the mill?"

The mill with which the first lumber was cut was a Scotch mill, but a Canadian mill was installed on 26th June, 1916. Soon afterwards, on 28th July, the whole mill was working day and night, and it was not till June, 1917, that continuous night-shifts were stopped. The mill ran until October, 1917, without any serious stoppage for repairs, and it was then closed for a week and given a thorough overhaul. The production, which amounted to about 500,000 F.B.M. in July, 1916, reached 1,125,000 F.B.M. in April, 1917, but when night-shifts were stopped, the output fell and was about 800,000 F.B.M. during the summer of 1917. After the mill had been overhauled the lumber produced was of much better quality, but the output was correspondingly lower. At first it was about 450,000 F.B.M., but had risen by January, 1918, to 730,000 F.B.M. The kind of wood cut naturally affected the output. At first soft wood was cut exclusively, but after October, 1916, mixed woods were cut until August, 1917, when the mill was engaged almost entirely on hard wood, principally oak, except for the re-sawing of slabs. The logs were all obtained from growing trees within about five miles of the mill; some came from Windsor Great Park, quite near the mill.

The mill premises were all home-made, and included, besides the mill building, five sleeping huts, dining room, recreation hut, canteens, orderly room, kitchen, store-rooms, officers' quarters, officers' and N.C.O.s' messes and canteens, hospital, workshop, bath house, stables, etc., etc. The Camp was very favourably reported on by the senior Sanitary Officer of the Imperial Forces for the district of Woolwich in February, 1918. His report shows that there was ample hutment accommodation, the huts being well constructed, warm and well ventilated, draughts from the floors being prevented by a banking of sawdust and timber to the floor level. The huts were warmed

by stoves constructed to burn wood, and the bath house was provided with an ample supply of hot water for showers. It is not to be wondered at that the Camp, on the whole, has been very healthy.

For transporting logs to the mill, some miles of railway were at first employed but were sent elsewhere when no longer required. The Camp contained about 50 horses and some half a dozen motor lorries, which were supplemented by transport hired locally. The strength of the Company, No. 101, at Virginia Water was in the early stages about 300, but was gradually reduced until it was below 200 "other ranks." In addition, Portuguese were attached for semi-skilled work, the number at one time reaching 150. About two-thirds of them were accommodated at Kingsmead House, Winkfield, and the remainder at Virginia Water Camp. Some were engaged in the woods making pit props, others loading lorries, working at the mill, and a few at miscellaneous jobs such as cutting fuel wood in Camp, working in stables, shoe making, cooking and orderly work.

Care needed to be taken to keep the felling and sawing operations properly proportioned. At one time the mill used up almost the whole of the pile of logs waiting, but by a careful re-arrangement of work and "comb-out" of the mill staff it was possible to add to those working in the woods without increasing the total establishment.

Weather affected matters very considerably. In January, 1918, for instance, when the operations in the woods were five to seven miles away from Virginia Water Camp, extremely bad weather, including rain, snow and floods, very much added to the difficulties of logging. Two donkey engines were operating in the latter part of the month, but it was necessary to employ 14 teams to swamp logs in the bush. "Going" was very heavy for the horses, but their condition was carefully watched; the horses needing rest were put on light work when necessary. Buildings at Fernstall were used to accommodate the Bush Officer, Bush Sergeant, Teamsters and Donkey Engineers to the number of 28, but the remainder of the gang working in the woods had to be transported morning and night to and from the Camps, and their meals had to be sent out into the woods.

The Camp was well provided with recreation accommodation; there was a dry canteen run by the Church Army, and a wet canteen, which was eventually closed on 30th April, 1918. The Virginia Water Camp owes very much to the most kind interest taken in the welfare of the men by H.R.H. Princess Alice, Countess of Athlone, who arranged many concerts and entertainments and in every way possible made the leisure hours of the Canadians as happy as could be. The Camp was honoured on many occasions by visits by their Majesties the King and Queen, and by various persons of high rank. A visit was also paid by the members of the Royal English Arboricultural Society in July, 1916.

Any description of the Virginia Water establishment would be incomplete without reference to the farm operations and the piggery, which were run with conspicuous success. A farm of 55 acres was worked in 1917, comprising about 10 acres of potatoes, 2 acres of cabbage, $2\frac{1}{2}$ acres turnips, 2 acres carrots, $\frac{1}{2}$ acre onions, $\frac{1}{2}$ acre lettuce, etc., 2 acres rape, and the remainder under grain. The produce has been used to supply all the messes of the Companies, and sold to various Companies who had no regimental farm.

A highly successful piggery had 47 pigs "on the strength" in the early summer of 1917; the numbers, of course, varied from time to time. This not only served as a means of disposing of the Camp swill and refuse, but provided supplies of bacon. In January, 1918, there were 25 pigs, all in first-class condition, as they ought to have been upon three good meals a day, two of them hot, made from the swill of the Camp, with roots and vegetables. Eight of the pigs averaged about 150 lbs., and the remaining 17 averaged about 117 lbs.

In January, 1918, revised arrangements were made for dealing with any outbreak of fire, with a new fire piquet and suitable orders. The wisdom of this was proved when less than two months afterwards a fire occurred which was confined to the mill. This particular fire is presumed to have started in



No. 16.

Railing Logs to Station in Scotland.



No. 17.

Rail Hauling with Horses.



No. 18.

Logs in Transit, Bedfordshire, England.



No. 19.

Logs entering a Mill in Scotland.

the engine room on the south-east side of the building, and with a strong south-east breeze the building, which was very dry and oily, could not be saved in spite of all efforts. The officers therefore directed operations to save the lumber and logs in the mill, and these were practically undamaged. As showing the efficiency of the fire alarm arrangements, the alarm was timed from the orderly room to the mill at 11.40 a.m., and within three minutes the men were on the ground with fire buckets.

Base Dépôt.—The Base Dépôt of the Corps was established on 6th January, 1917, at Smith's Lawn, Windsor Great Park. This site was obtained from His Majesty the King through the courtesy of Mr. Forrest, Deputy Surveyor, H.M. Woods and Forests.

It was located five miles south of Windsor, three miles to the south-west of the village of Ascot, with its famous racecourse, and two miles east of the towns of Egham and Virginia Water.

The officer originally in command of the Base Dépôt was Lieut.-Col. S. L. Penhorwood, and it was under his supervision that this large Camp was erected.

The buildings comprised the following :—

Orderly Room,	Sergeants' Mess,
Guard Room,	Dépôt Hospital,
Mobilisation Stores Buildings,	Medical Office,
Workshops,	Dental Office,
Blacksmith Shop,	Drying Room,
Lorry Shed,	Electric Light Plant,
Quartermaster's Stores,	Shower Baths for Men,
Post Office,	Officers' Huts,
Young Men's Christian Association Building,	Sergeants' Huts,
Central Kitchen,	Men's Huts,
Two Mess Buildings for the Men,	Canteen,
Officers' Mess,	Horse Stables, &c.

The Orderly Room, Guard Room, Officers' Mess and Y.M.C.A. were rustic buildings. The Men's Mess, Sergeants' Mess, Kitchen and Power House, Quartermaster's Stores, Mobilisation Stores and Workshops were built with rough lumber and covered with tar paper on the outside. The huts for all ranks were collapsible, erected out of ready-made sections.

The acreage covered by the Base Camp was 125 acres.

The Headquarters' Mess was situated in a rustic building consisting of ante-room, dining room, kitchen and canteen, near the Officers' Lines. During September and October, 1917, there were so many officers that a second mess had to be established to accommodate them. It was also necessary to have a separate Officers' Mess to provide for officers direct from Canada, who were required to go into segregation for ten days after arrival.

The Sergeants' Mess was situated near the Sergeants' Lines. The men had central messing. There was one large kitchen, with dining rooms opening on either side sufficient to accommodate 1,000 men at one sitting. The men were paraded by Companies to the cook-house; each received his portion and passed into the dining room, where there were benches and tables. In the summer-time there was a separate kitchen and tables and benches in the open for the men in segregation.

His Majesty the King and many of the members of the Royal Family have been frequent visitors at the Base Dépôt and have taken the greatest possible interest in everything connected therewith.

All the work of selecting and mobilising the Companies has been done at the Base Dépôt. This work called for the greatest care in the choice of men and material, and required special ability on the part of the Staff of the Base Dépôt. Each Company consisted in all of 6 officers, 14 sergeants, and 171

other ranks, a total of 191, including 12 attached. The rank and file included :— 1 company storeman, 7 scalers and assistant foremen, 8 second foremen, 1 assistant blacksmith, 20 log-makers, 15 teamsters, 30 rollers and chainmen, 10 road-cutters, 2 saw-filers, 2 millwrights, 2 sawyers, 2 log-setters, 2 edgemen, 3 engineers, 2 grooms, 40 general hands, 6 batmen, and 9 drivers for vehicles. There were also 73 horses and no less than 40 vehicles, including water tank carts, travelling kitchens, lorries, tractors, wagons, etc.

To give an idea of the number of men handled at the Base, it may be stated that from the date it was established (the 6th January, 1917) to the end of April, 1918 (16 months), 24,000 all ranks passed through it, an average of 1,500 per month. From Canada during this period no less than 10,454 of all ranks were received, and from various regimental depôts in England, 6,692 all ranks.

The greatest credit is due to the hard work done at the Base, because a draft-giving Unit such as this is most difficult to operate from an administrative point of view owing to the daily changing of personnel.

The vegetable farm at the Base was one of the largest of its kind in Great Britain, and the piggeries have been a great success.

At Smith's Lawn, in addition to the Base Depôt, a Company (No. 140) was established whose special task it was to prepare the portable Armstrong huts used by the Corps. This Company was equipped with a modified Scotch mill having a capacity of 10,000 F.B.M. per 10 hours ; a drying kiln for preparing the lumber and a factory or workshop, 25 ft. by 200 ft., in which all the planing, re-sawing and carpentering was done. Attached to the workshop was a packing and dipping room where the hut sections were creosoted, tarred and passed out to a loading platform to be assembled, crated, marked and despatched by wagons to Egham Station. This Company commenced in November, 1917, felling, hauling and converting, working oak, chestnut, spruce, fir, Weymouth pine, elm, birch, beech and larch. The monthly output was about 200,000 F.B.M. of wood, or about 72 complete huts. Necessary repairs to roads used for hauling in the Park, and new roads at the Camp, were made by this Company, together with the men at the Base Depôt.

It was this Company which designed and, with the assistance of No. 119 Company, erected for H.M. the King a memorial of the Corps, known as the King's Cabin—a typical log building in front of the West Terrace of Windsor Castle, made entirely of fir logs from the Park, six to eight inches in diameter. The walls are peeled inside but not out, and the floor, 14 ft. by 16 ft., is of logs hewn smooth and flat on the top. Four windows with small panes have sashes made from branches about one inch thick. The fireplace is of Kentish rag stones, cobble stones not being available. The roof, made entirely of slabs, extends over a wide porch the full width of the south side. It is hoped that this cabin will stand for many years to come, to recall the work of the Canadian Forestry Corps.

Districts.—With the expansion of the operations it became necessary to organise the work into Districts, of which there were eventually six in Great Britain (see Map on Page 22) numbered 51 to 56.

No. 51 District Headquarters were established at Edinburgh, Scotland, on the 15th May, 1916, moved to Nairn on the 24th July, 1917, and afterwards to Inverness on 24th November, 1917.

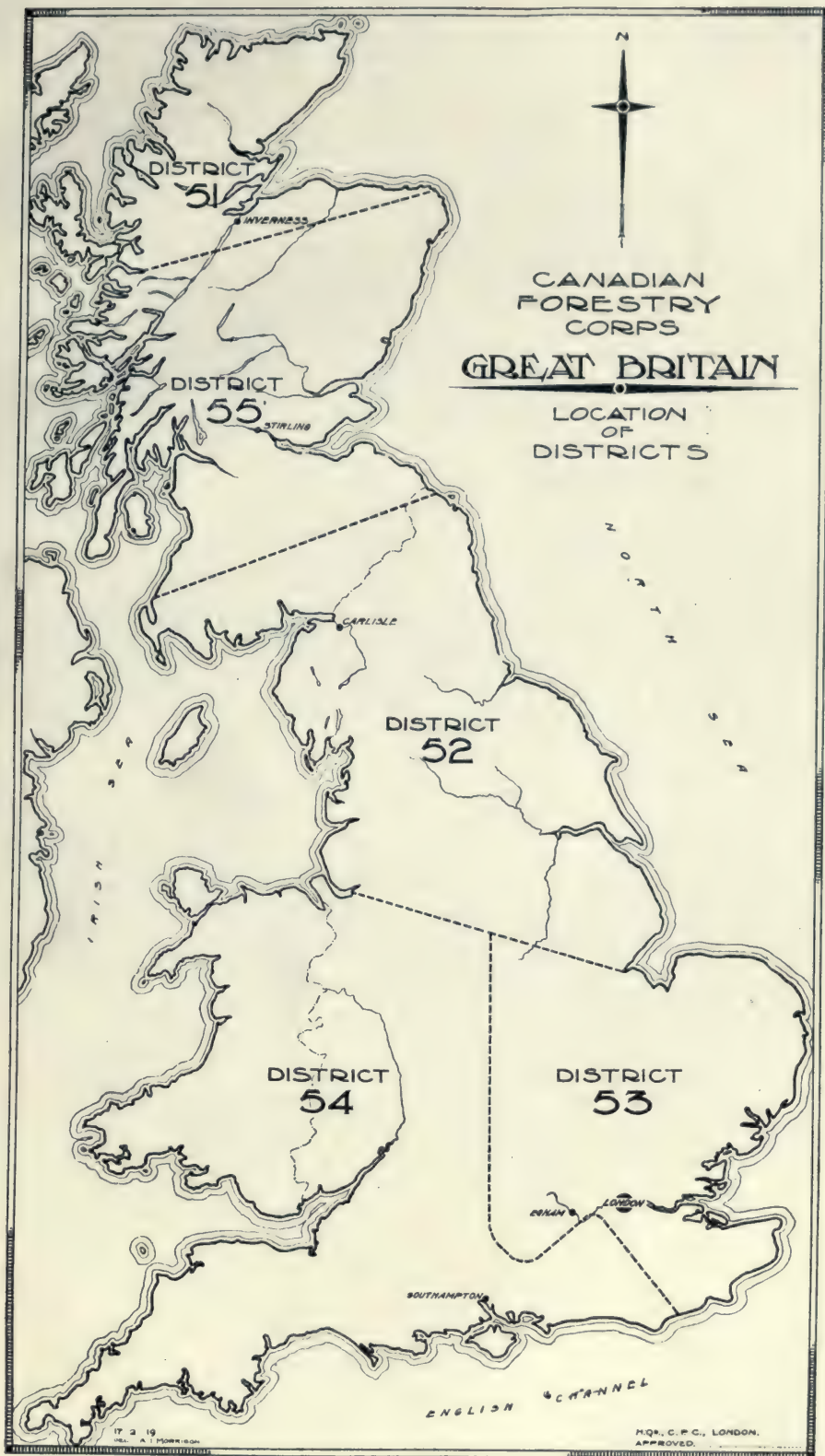
No. 52 District Headquarters were established at Carlisle, Cumberland, on the 6th November, 1916.

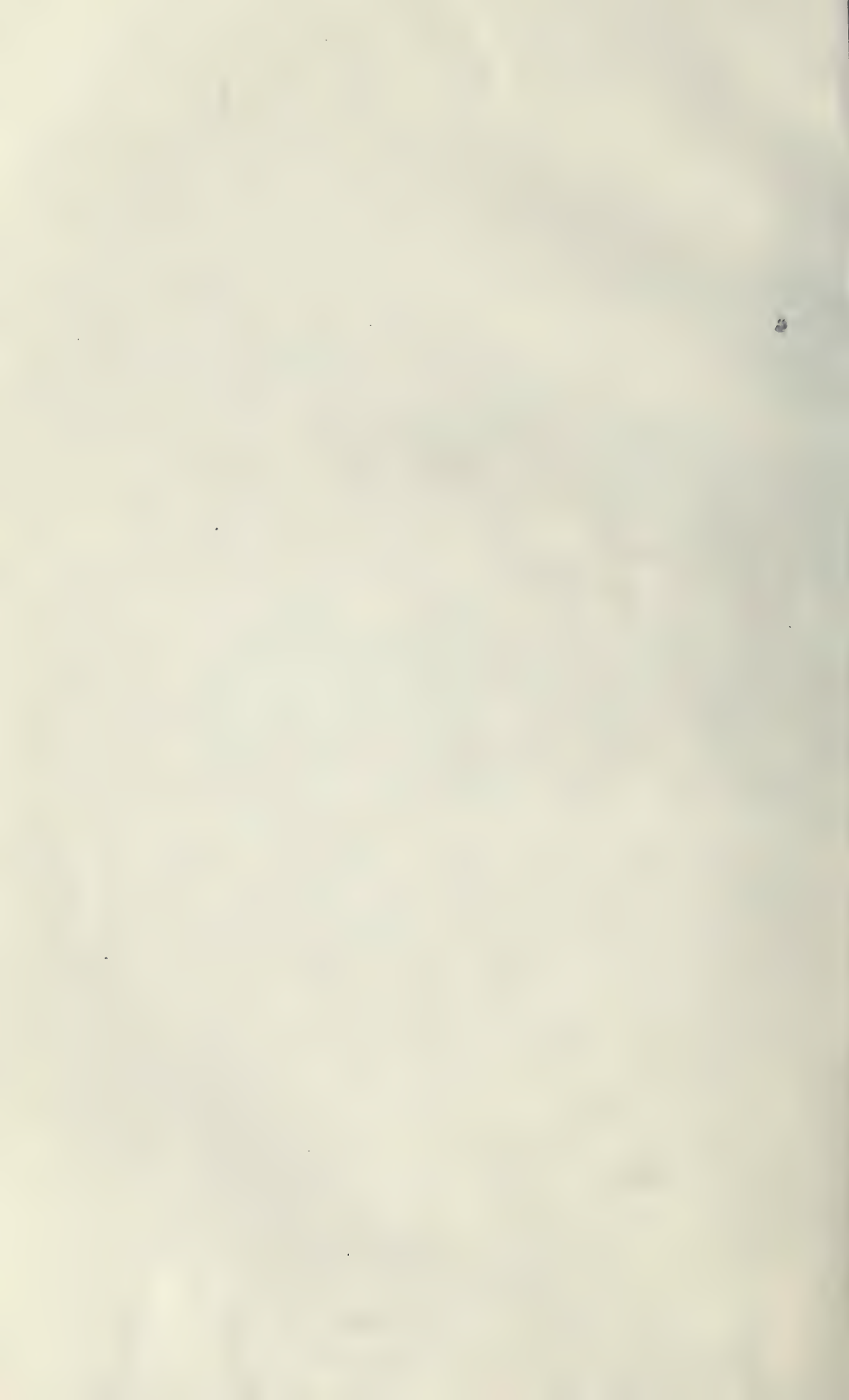
No. 53 District Headquarters were established at London, 6th November, 1916, and moved to Egham, Surrey, 5th November, 1917.

No. 54 District Headquarters were established at Southampton, 22nd, August, 1917.

No. 55 District Headquarters were established at Stirling, Scotland, 19th November, 1917.

No. 56 District Headquarters were established at East Sheen, Surrey, 16th August, 1918.





Each District was in charge of a Colonel, the Second-in-Command having Major's rank, and the Adjutant that of Captain ; there were also a Quartermaster (Hon. Captain), a Transport Officer (Captain), and a Messing Officer (Lieutenant), with the necessary assistants.

Each operation was usually run by an entire Company, with a Major in command, comprising about 165 all ranks, and reproducing the District organization on a smaller scale.

It will be noted that District 56 is not shown on the map. This was formed of Companies working on aerodrome construction for the Royal Air Force. The Companies were in turn split into small detachments scattered throughout the length and breadth of Great Britain, and their work has already been referred to.

Close touch with the Timber Supply Department of the Board of Trade was maintained by liaison officers under Major G. L. Courthope, M.C., M.P., of that Department, as previously mentioned in Chapter II.

As an example of a district, we may take No. 55, which comprised roughly the southern half of Scotland. At the time of its formation several Companies were already operating or starting in this area, namely: No. 108, working on the Estate of the Earl of Mansfield, about eight miles west of the City of Perth, and three miles north of the village of Methven ; No. 110 Company, at Abernethy Forest, in the Valley of the Spey, forming part of the Estate of the Countess of Seafield, in the County of Inverness ; No. 121 Company, working on the Estate of the Duke of Richmond and Gordon, at the foot of Cairn Gorm Mountain ; No. 128, in Kincardineshire, on the Estate of Sir James Sivewright ; No. 109 Company, at Tulliallan, also on Sir James Sivewright's Estate, about two miles from Kincardine-on-Forth. No. 108 Company was the only one which was actually producing sawn lumber, the others having only recently moved to new areas and being at work erecting their mills.

The Staff of the District Headquarters consisted of three officers and 29 other ranks of the Canadian Forestry Corps, and five of the Canadian Army Service Corps, the Headquarters itself consisting of a large private residence which had been taken over by the War Office. The officers and men were billeted in the town, and will have the pleasantest memories of the hospitality and courtesy of the inhabitants.

Gradually the various Companies erected their mills, put them in operation, laid down light railways where necessary, and in spite of the natural difficulties of the operations and the unfavourable conditions, proceeded to turn out larger and ever larger quantities of sawn lumber. In December, 1917, Company No. 108 cut 341,911 F.B.M., and No. 121 produced 92,709 F.B.M.; both these and the other Companies were all carrying on logging operations. By the summer of 1918 the six Companies in this district (No. 130 having been added in the meantime) produced not far short of 3,000,000 F.B.M. per month.

In this district the Canadians were assisted by a certain number of surplus seamen, Finns and others, recruited by the Timber Supply Department, partly from the crews of torpedoed merchant ships. These men were hardy, and had a certain aptitude for timber work, with which many of them were to some extent familiar in their native country ; consequently their work was good on the whole. Over 300 were at one time employed in this district ; later on a few German prisoners were also engaged.

It has already been noted that an additional Company, No. 130, began work in the district. This was late in November, 1917, at Kemnay. Other new operations were started by the Companies already in the district at Kirriemuir and Kilkerran.

As soon as the district was organised, steps were taken to instruct the various Companies in the raising of farm produce and the keeping of pigs. In both of these directions very successful work was carried on in almost all cases, to the great benefit of the men and of their mess funds. The surplus pigs were sold in the local markets and made very good prices.

At first there was very little in the way of amusement available for the men in this district, although the ladies in Kincardine had been good enough to start a Reading and Writing Room for the men. Y.M.C.A. Huts were, however, erected in the different Camps, and visits by concert parties, etc., arranged. The relations between the officers and men of the Corps and the inhabitants were throughout of the most satisfactory character, and it is pleasing to record that the behaviour of the men was excellent, the number of offences being very small. The officers are much indebted to various ladies and gentlemen of the district for abundant hospitality and excellent shooting, while perhaps the best testimony to the popularity of the men lies in the fact of the numerous requests that were received throughout the whole period from the men for permission to marry. No less than 27 men in one Company found brides in Scotland in about a year.

Perhaps one of the most vivid memories which the members of the Corps will carry with them to Canada from this district is that of the British climate, with which they made an extensive and peculiar acquaintance. In January, 1918, for instance, it is recorded that the weather was at one time so intensely cold that six degrees below zero was registered, while shortly afterwards it became excessively mild and misty to such an extent as to make the Canadians feel quite depressed. The health of the men was, however, on the whole very good, although there was a certain amount of sickness, mostly of the bronchial variety brought about by the climatic conditions. The influenza epidemic in 1918 caused serious trouble here as elsewhere. Accidents happened from time to time in this district as in every other part where lumbering operations are carried on. The difficult country was responsible for a certain number: for instance, on one occasion a runaway truck-load of timber crashed into a light locomotive engine, throwing out the driver, and sending the engine uncontrolled at increasing speed along the track, which, of course, it eventually jumped. However, in a few weeks the engine was back at work again.

In August, 1918, the Camp Hospital of No. 121 Company was completely burnt owing to a spark from an engine setting light to the heather the Hospital building.

A Typical Operation.—Turning our attention from a district to a single Camp, we may take as an example an operation in another part of Scotland in the neighbourhood of Nairn, a town and locality of great historic interest. The timber worked was situated on the Darnaway Estate, belonging to the Earl of Moray, and on the Estate of Moyness, the property of the Earl of Cawdor. This was one of the first operations to be undertaken in Scotland by the Canadians, an advance party of two officers and 30 men arriving at Broadshaw from Bramshott on the 30th June, 1916, followed shortly afterwards by further parties which brought the numbers up to over 300 officers and men of the 8th and 9th Detachments of the 224th Canadian Forestry Battalion. The 9th Detachment was subsequently removed to Keppernach. The Camp at Broadshaw was situated at the top of a steep hill overlooking rolling country to the shores of the Moray Firth. The men were thus favoured with a magnificent view, including at times warships manœuvring in the Firth. It was of course necessary to take precautions to prevent light from being shown at night, and it is on record that on one occasion when a frozen pipe was being thawed at night, an aeroplane swooped down to investigate. The Camp was laid out along two sides of a triangle, the third side of which was a road, the open space in the middle being used for piling lumber. A Scotch mill was first erected, followed soon after by a Canadian mill. The men were accommodated in tents for the first three or four months, during which time the weather was unusually wet for this locality, but at the end of that time huts had been erected. The health of the Camp was good throughout; there were no deaths or very serious accidents recorded. But the country was very difficult, on account of the hills and bad roads. Pole tracks were used for bringing logs to the mill, one of these tracks being more than a mile and a half long. Upon these tracks were run trucks having grooved wheels,



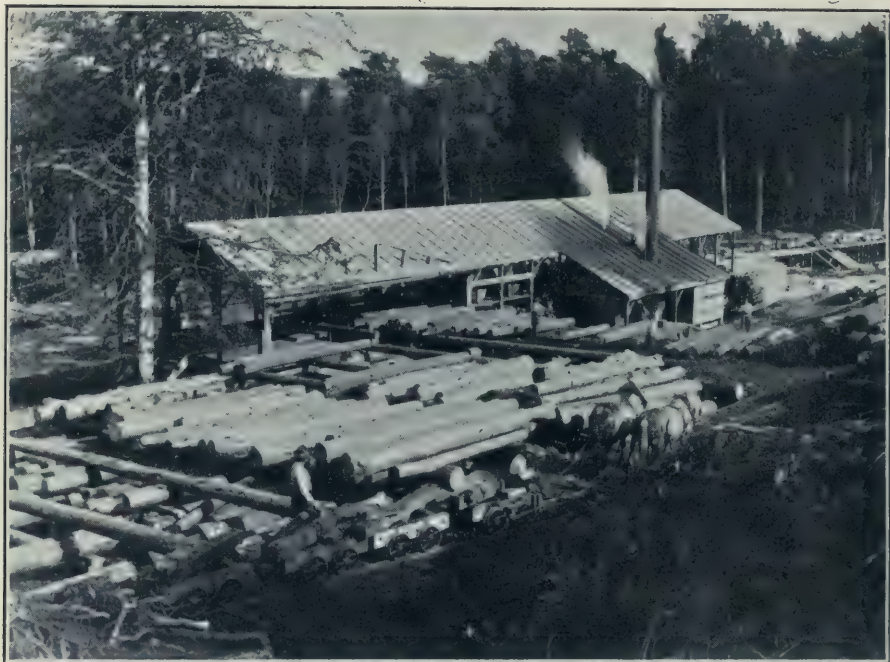
No. 21.

Inside a Mill in Scotland.



No. 22.

Typical Mills in Britain. (1)



No. 23.

Typical Mills in Britain. (2)



No. 24.

Typical Mills in Britain. (3)

each truck being capable of carrying approximately ten tons, drawn by horsepower from the skidways to the unloading platform at the mill. A donkey-engine was used for a time in Darnaway Forest for dragging whole trees to a spot where they could be cross cut into logs, on account of the swampy nature of parts of the ground. By far the greater part of the timber worked was Scotch fir, but there was a fair quantity of larch, and a little spruce; but no hardwood. The late autumn and winter of 1916-17 was wet, and made the pole tracks in such a condition that haulage was the reverse of easy. But it does not appear that this brought about any material delay in feeding the mill with the requisite number of logs. The great difficulty at this Camp was in relation to the transport of supplies and the sending away of the sawn material. It was only possible to get to the Camp at the top of the hill by a narrow road up a steep incline. In many cases light cars could not go up, and the passengers had to walk up the hill through the heavy mud. There was also a valley between the mill and the Camp, and occasionally it was necessary to put a traction engine at the top of the incline near the Camp, attach a cable to a loaded tractor stuck in the dip, and so haul it up. The soft roads in this district suffered from the haulage work so much that there were ruts up to 1 ft. deep in places. At the beginning of operations, cars on the way to Nairn had to ford a stream called the Muckle Burn. The Company soon got to work on the making of a bridge, and before bad weather came a substantial bridge with cement piers had been constructed, which remains as a reminder of the sojourn of the Canadian Forestry Corps at Broadshaw.

No Portuguese, prisoners of war, or other attached labour was actually accommodated at this Camp, although parties of foreign labourers from the Keppernach Camp were sent over at intervals in the later stages to load lumber and clear buildings, etc.

Farming operations were not carried on at Broadshaw, where the work ceased before this policy was adopted. Three pigs were, however, presented to the Company by Lieut.-Col. Miller in August, 1916, and thenceforward a piggery was run at a good profit, of which the men's regimental fund obtained the benefit.

The Y.M.C.A. opened a large and comfortable Recreation Room at Broadshaw Camp at the end of February, 1917, which was of great help to the Company during its stay in this neighbourhood. Concerts and other functions frequently took place, at which guests from the neighbouring districts were welcomed. Various local residents were good enough to assist on the Y.M.C.A. Amusement Committees, and their efforts were very much appreciated. Religious services were held usually on alternate Sundays by Clergy of the neighbourhood. Football and baseball, and other sports, it need hardly be added, were carried on when opportunity offered. The number of marriages between Canadian Forestry men and the girls of Nairn and district was not so high, perhaps, as in certain other districts, but a good many letters were sent from Nairn to the men from Broadshaw after they had been transferred to France, and *vice versa*. The operations at Broadshaw were finished in April, 1917, when the last log was cut. The Canadian mill was dismantled and hauled away to a new operation, but the men of No. 106 Company were transferred to France, the new operation at Kinsteary being taken over by Company No. 120. Afterwards the remaining lumber and ground material were gradually taken away and the woods cleared by attached labour from Keppernach. Of the buildings, some were destroyed by fire in October, 1917, but the remainder were either dismantled and the lumber removed, or taken away in sections for use elsewhere. The final operation was to plough the site of the Camp.

The illustrations show various examples of the work of the Corps, and include a notable mill at Longmoor in Hampshire, where a special band re-saw plant was installed. At this mill the logs were first squared by being passed through circular saws, and were then sawn to the required sizes with great rapidity by the band-saw plant, to which they were conveyed mechanically. This mill also had a plant for resawing slabs, so as to get the greatest possible amount of timber from the logs.

The Technical Warehouse.—A description of the operations needs to be supplemented by some account of the Technical Warehouse from which the Companies were supplied with their equipment. To trace the history of the Technical Warehouse it is necessary to hark back to the early days of the original Battalion (224th).

Equipment was ordered in Canada on behalf of the 224th Canadian Forestry Battalion sufficient for six Companies, comprising saw mills, tools and supplies for millwrights, loggers, blacksmiths, electricians and farriers. Upon the arrival in England of the third and last draft of the 224th Forestry Battalion this equipment was already at the seaboard in England awaiting delivery.

It was decided that London offered the best facilities for storing, assembling and eventually despatching equipment to Companies. On 22nd May, 1916, possession was taken of a four-storey warehouse at 18, Marshalsea Road, London, S.E., three N.C.O.'s and seven men being attached. After a few days' occupancy, this building was found quite insufficient to cope with the heavy and bulky equipment then arriving: saw mill parts, wagon parts, chain, iron and steel. Approximately 20,000 super ft. of yard space was then secured through the Home-Grown Timber Committee in the rear of the National Art Gallery, Trafalgar Square. These facilities quickly became inadequate, and further yard space at the Bricklayers' Arms Station of the South Eastern and Chatham Railway Company was secured.

Up to 31st October, 1916, eight Companies of the 224th Forestry Battalion were able to start operations with equipment supplied from Marshalsea Road and the National Gallery Yard.

About 1st October, 1916, further premises were acquired at Stewart's Lane Station, S.E. & C. Railway, Battersea. The first building to be occupied at Stewart's Lane was formerly used as a loading shed, having a single track through its entire length; the yard in front was also acquired. Arrangements were made in addition to take possession of a large building formerly used as a locomotive blacksmith shop. This building was 400 ft. \times 46 ft., and it was proposed to share it with the prospective Canadian Forestry Corps Machine Shops. A wooden floor was constructed, and shelf accommodation for small tools erected. Office accommodation was shared with the S.E. & C. Railway at the end of the shed. The yard space in front of the building was also occupied for the storage of iron and steel, and eventually all equipment from Marshalsea Road and the National Gallery Yard was removed to Stewart's Lane.

Further Companies in Great Britain, and Companies No. 14 and 15 in France, were being supplied with equipment to commence operations.

Equipment for the 224th and 238th Forestry Battalions was arriving daily, together with that ordered by the Home-Grown Timber Committee for the Corps, and it was found necessary to take over more of the building, to erect Armstrong portable huts, acquire further yard space between the tracks for the storage of boilers, engines, steel rails, lumber, etc., and to erect a large lean-to shed. This shed was ultimately completed in the following March, 1917. Early in 1917 the organisation was revised in regard to the accounting for and care of Technical Stores, the staff being divided into the requisite Departments, each in charge of a capable N.C.O.

From experience gained in shipping equipment to Companies already in operation it was found essential to standardise a Company's requirements. Lieut. (later Lieut.-Colonel) D. B. Campbell thereupon standardised the equipment necessary for the various operations of a Company. What is now known as the "Campbell Sectional List" was the result, and comprised 21 Sections as follows:—

- | | | |
|---------|----|---|
| Section | 1. | Material for Construction. |
| " | 2. | Operating Supplies. |
| " | 3. | Steam Power Plant, Tools and Supplies. |
| " | 4. | Blacksmith Outfit. |
| " | 5. | Construction Tools (other than Mechanics'). |



No. 25.

A Lumber Avenue.



No. 26.

Dinner-time.



No. 27.

Attached Labour (Portuguese).



No. 28.

Women Timber Measurers in Buckinghamshire.

Section	6.	Millwrights' Tool Kit.
"	7.	Saws and Saw Tools.
"	8.	Electric Light Plant.
"	9.	Telephone Equipment.
"	10.	Electricians' Tool Kit.
"	11.	Steam Logging Plant and Supplies.
"	12.	Loggers' Outfit.
"	13.	Tools, Miscellaneous for Bushmen.
"	14.	Chains, Hooks, etc.
"	15.	Loggers, Blacksmiths' Outfits and Supplies.
"	16.	Loggers.
"	17.	Railway Material.
"	18.	Road Construction Outfit.
"	19.	Transport.
"	20.	Harness.
"	21.	Pipes, Fittings, etc.

A Base Dépôt at Havre in France was formed, and to this Dépôt equipment was shipped in bulk to provide for the immediate requirements of Companies in France.

On 20th April, 1917, yard space with railway sidings running throughout was acquired at Egham, 20 miles from London, on the L. & S. W. Railway, and to this yard was diverted all railway material and transport equipment. This became necessary on account of inadequate accommodation at Stewart's Lane and the encroachment by the Corps on S. E. & C. Railway premises. An N.C.O. was placed in charge at Egham Stores, the men required for loading and unloading purposes being sent from the Base at Sunningdale (three miles away).

The premises and plant continued to grow with the work, the Machine Shop and Technical Warehouse compressing one another into the available space, until on 1st October, 1917, notification was received to vacate Stewart's Lane Dépôt and to occupy the London General Omnibus Company's Garage at Bromley Road, Catford, then occupied by the Repair Section M.T. Repair Dépôt. About 2,500 tons of Stores had to be moved, but by 1st November all buildings at Stewart's Lane had been turned over to the War Department. Heavy machinery such as boilers, logging engines, etc., were not moved on account of siding accommodation at Catford not being available. During the move, the supply of equipment to Companies operating in the Field was not interfered with. Some small idea as to the quantity involved in the move a distance of about ten miles, may be gathered from the fact that there were moved by rail 498 truck loads, and by road 280 lorry loads. At Catford it became necessary to provide barrack accommodation. Large semi-detached houses situated in Berlin Road were taken over from the M.T., A.S.C. Four of these houses were occupied by the men of the Technical Warehouse, and two served as a joint Mess for the Technical Warehouse and Machine Shop Sergeants. Mess accommodation for the men was provided in the Catford Skating Rink. One of the good deeds standing to the credit of the Technical Warehouse was that they induced the Local Authorities to rename Berlin Road "Canadian Avenue," and a letter was received from the Mayor of Lewisham speaking of the pleasure of the Council in being able in some way to perpetuate the memory of the Canadian Forestry Corps.

Between 1st January, 1917, and 31st December, 1917, an average of 278 railway trucks per month were received and 164 despatched from Stewart's Lane. Approximately two tons of equipment from local firms were also being received daily.

On account of the growing operations of the Canadian Forestry Corps the work of the Technical Warehouse had to be almost quadrupled, and its total strength at 31st December, 1917, had increased to one Officer Commanding, four other Officers and 192 N.C.O.'s and other ranks.

The following list of some of the Stores most in demand and issued by the

Technical Warehouse between 1st January, 1917, and 31st December, 1917, speaks for itself :—

		England.		France.		Total.
Roofing	Ruberoid ..	5,464 rolls	..	1,613 rolls	..	7,077 rolls.
"	Tarred Felt	3,491 "	..	250 "	..	3,741 "
Nails	.. ..	167,924 lbs.	..	126,422 lbs.	..	294,364 lbs.
Iron ..	.. ..	264,990 "	..	133,310 "	..	398,300 "
Steel ..	.. ..	19,717 "	..	11,805 "	..	31,522 "
Pipe ..	.. ..	50,854 feet	..	72,272 feet	..	123,126 feet.
Cable..	.. ..	285,869 "	..	168,010 "	..	453,879 "
Oil ..	.. ..	33,913 galls.	..	43,043 galls.	..	76,956 galls.
Grease	.. ..	17,694 lbs.	..	28,350 lbs.	..	46,044 lbs.
25 lb. Rail	.. ..	411,186 feet	..	174,035 feet	..	585,221 feet.
Cement	.. ..	157,860 lbs.	..	157,740 lbs.	..	308,600 lbs.
Bolts	.. ..	66,228 No.	..	13,271 No.	..	79,499 No.
Files..	.. ..	37,118 "	..	16,583 "	..	53,701 "
Belting	.. ..	32,819 feet	..	22,474 feet	..	55,293 feet.

Eighty-nine Saw Mills and 73 Logging Engines were sent to operations in Great Britain and France up to 31st December, 1917.

Month by month the strenuous work went on of handling equipment, making up plant and doing all manner of technical work, not merely for the Corps, but for the Timber Supply Department, the American Expeditionary Forces, the Newfoundland Forestry Corps, and to a smaller extent the Canadian Railroad Troops. A Scotch mill was supplied to the Chief Engineer at Aldershot, and one was sent on the request of the Deputy Director of Works, Alexandria. Nearly 1,600 truck loads were received in 1918, apart from what came by motor lorries and otherwise. During the year 1918 over 13,000 demands from the operations in Great Britain and France were received, of which all but 17 were completely filled, the remainder being filled in part, or for equipment not in stock.

The Workshop.—At an early stage it was decided that the best way of obtaining the mills and equipment required to supplement what was sent from Canada was to *make* them.

In one of the Scottish Districts a Canadian mill and two Scotch mills had been erected, but were not enough. The erecting engineer, Pte. (now Capt.) D. T. Cameron, and his men, thereupon built a "Pony" mill out of the trailer of the big mill not in use, with spare parts, and castings made at a local foundry, a workshop being improvised by means of a discarded lathe, an old drilling machine, and such-like plant, some items coming from a blacksmith's scrap heap.

The same engineer was asked to lay out a more adequate workshop in London in premises next to the Technical Warehouse at Stewart's Lane, and soon the bare shop was tenanted by a small cupola, a brass foundry, four large blacksmith's forges of a portable type, planer, shaper, radial drill, etc. In February, 1917, the shop was hard at work. Further plant was added—lathes, drilling machines, hacksaws, etc., and the organisation developed. Plans were prepared, and patterns made for building the Waterous type of Canadian mill adopted as the standard. Soon these mills were being turned out with every success, but the demand grew apace and even a night shift was not enough to meet the calls for mills, spare parts, and repairs. Men had to be trained, and the work expanded in all directions. Equipment, too, had to be made for use in France. A contract was placed with a Scotch firm for a number of mills in addition to those the workshop could turn out.

A crowning difficulty was the removal from Stewart's Lane to Catford, without seriously hampering production; but within three weeks all was running smoothly and the cupola was at work in under 5½ days from the time it was dismantled. While wiring for electric power was being done the plant was driven by petrol engines, the noise being indescribable. Still the work grew—a new foundry was built, 50 ft. × 150 ft., a new cupola, and many other features were added, so that the number of men in the workshops when hostilities ceased exceeded 200.



No. 29.

What the Y.M.C.A. provides.



No. 30.

Part of the Technical Warehouse.



No. 31.

A Corner of the Machine Shop.

Royal Engineers.—The movement of Companies of the Corps complete in personnel and equipment from the Base Dépôt in Windsor Great Park into one of the six Military Commands in Great Britain, raised various technical questions, especially of an engineering character. About the end of 1916 it was felt that the services of an Officer of extensive experience in the Royal Engineers were necessary to arrange generally the R.E. services duties in connection with the C.F.C. Eventually in February, 1917, Col. G. R. R. Savage, C.V.O., late R.E., was appointed by the War Office to command the C.F.C. R.E. The work of this branch has to do with the construction of huts, obtaining sites for them, accessory buildings, water supply, drainage, sanitation, bath accommodation, telephones, care of roads at the Camps, supply of maps, etc. In addition, there are the Engineer services connected with prisoners of war, Portuguese and other attached labour, the construction for prisoners of war of huts according to regular design with barbed wire entanglements and electric light outside. Hospital accommodation and arrangements connected with buildings taken over for the use of the Corps also fall within the scope of Colonel Savage's Department. Every member of the Corps will from experience be able to testify how well the work was done.

Transport.—When the Corps first came over from Canada their first thought was to provide the lumber, and transport arrangements were carried out by the Home-Grown Timber Committee and the Army Service Corps. As the work of the Canadians increased, so did the quantity of lumber to be moved, and it will not be surprising to anyone who knows the tremendous activity of the Canadian methods of lumbering that the quantity to be lifted grew more rapidly than the transport. In the spring of 1917 it was arranged that tractors and trailers should be provided through the Timber Supply Department. Later it was decided that all mechanical vehicles held by the Corps should be taken over by the local auxiliary Mechanical Transport Company of the A.S.C. The arrangements even then were inadequate, and in September, 1917, Major Bagot (afterwards Lt.-Col.), Chief Transport Officer, in reporting on the position, proposed that arrangements should be made with the War Office to supply sufficient mechanical transport, so that the Corps might do its own hauling.

One hundred and ninety-seven three-ton lorries were asked for. By the end of 1917 the Transport Department controlled no less than 573 mechanical vehicles, compared with less than 50 in the previous June, while at the end of 1918 the number had increased to 727. It was found necessary to appoint a Transport Officer to each of the Canadian Forestry Corps Districts in Britain (Nos. 51 to 55). During the first five months of 1918, 202,900 ton-miles was the average monthly haul of all products, while for the remaining seven months the average was 177,650 ton-miles, making a grand total of more than 2,250,000 ton-miles for the year.

Reference has been made in a previous chapter to the manner in which the Corps executed an urgent demand for timber for the Front, eleven days ahead of the specified time. The maintenance of the motor transport vehicles and the supply of sufficient railway trucks through the efforts of the Transport Department contributed in no small measure to this result.

Forestry Branch: Accounts Branch, etc.—It goes without saying that the organisation at Headquarters included efficient statistical and forestry sides, dealing with instructions as to felling, preparation of maps and records, etc. The figures given throughout this record are a sufficient testimony. Accounting and other necessary branches were equally efficient.

Attached Labour.—It has already been mentioned that the Canadian Forestry Corps were assisted in many instances by bodies of unskilled or semi-skilled labour provided by the Timber Supply Department in order that the utmost use might be made of the skilled services of the Canadians. In some cases Portuguese, in others Finns or surplus seamen, and in others prisoners of war, were tried, and perhaps the best results on the whole were obtained from the last named, because of the fact that the Canadians were a Military Force.

The provision of attached labour became essential when, on account of the need of men for the combatant service, some 500 were transferred from the Corps.

Eventually it was arranged in September, 1917, that the Canadians should have first call on all the labour that could be made available up to 2,000 Portuguese and 2,000 Finns, and as many prisoners of war as could be provided.

In September, 1917, the Department of Attached Labour was opened, under the direction of Mr. C. Lloyd, then acting as Liaison Officer, and Capt. H. de Burgh Mercer, of the Canadian Forestry Corps. In November Mr. Lloyd had to resume his duties at Windsor, and Captain Mercer took over the Department. The arrangement was that the Timber Supply Department fed, clothed and administered the attached labour through a Quartermaster and two interpreters for every 100 men. The Canadians were responsible for providing huts and for directing the work of the men, which was of various kinds, including the cleaning up of sites, construction of roads and loading of timber.

At every operation where prisoners of war were used a special encampment had to be provided, involving about three tons of barbed wire. The first was erected at Langley Park, where 150 prisoners were installed early in October, 1917. Such an encampment to take 200 men was $4\frac{1}{2}$ to 5 acres in area, surrounded by a barbed wire fence 8 ft. high, together with an inner fence 10 ft. within the outer, and 10 ft. from this fence was the death line, consisting of a plain wire on posts about 3 ft. high. Inside were mess room, canteen, sleeping quarters, wash and bath houses, tailors' and boot shops, laundry, a heated drying room, cook-house, hospital and N.C.O.'s quarters, all lit by electricity. The gate of wood and barbed wire had a guard, and there was also a guard on all four sides of the Camp. Outside the fence were huts for the Officers and other ranks of the guard, who were supplied from the Imperial Forces.

Portuguese labourers were employed at a number of the Camps, including Virginia Water, Mortimer, Lyndhurst, Mamhead and Ampthill. As soon as accommodation had been arranged, either in premises taken over or in huts, Quartermasters and stores were sent, followed by advance parties of 40 Portuguese, the strength being brought up to 150 men for each C.F.C., when the Camp was ready. Similar arrangements were made in connection with the surplus seamen, generally described as Finns; these men were used more especially in Scotland, where the climate was too severe for Portuguese. Eventually it was found that the Finns and prisoners of war were the most satisfactory forms of attached labour, and the Portuguese were largely transferred to other work.

Special arrangements had to be made to ensure not only that the Canadians received sufficiently abundant supplies of food for the strenuous work of the Corps, but also that the attached labour received appropriate food. The diversity of races meant a corresponding diversity of food; the Portuguese in particular were accustomed to a diet consisting largely of fish, bread, potatoes, beans, rice and olive oil, together with green vegetables and onions. The following shows one month's rations for 100 Portuguese, to which was added twice a week $\frac{3}{4}$ lb. of meat per man, and once a week 1 lb. of vegetables or beans —

Fish	..	..	1,500 lbs.	Potatoes	..	..	900 lbs.
Bread	..	..	2,625 "	Beans	..	..	1,500 "
Maize	..	..	960 "	Rice	..	..	3,000 "
Oil	..	..	15 gals.	Lard	..	..	60 "
Salt	..	..	300 lbs.	Onions	..	..	120 "
Coffee	..	..	60 "	Greens	..	..	800 "
Meat	..	..	600 "				

Woe betide the Quartermaster who issued beans the slightest bit musty, or oil that was stale, for these men were connoisseurs, and the whole camp would be around him with dishes in hand, every man explaining his grievance in his own way.

Food Production.—Something is said on this head in describing typical operations, but the work was of such interest that it deserves a special note. Realising the food shortage in Great Britain, the Corps conceived the idea of producing as much of their own food as possible, thus relieving the heavy demand on the A.S.C. and the Imperial Forces. The possibility of cultivating farming plots at the Camps was discussed, and through Mr. A. J. Forrest, Deputy Surveyor H.M. Office of Woods and Forests, a model farm of 32 acres in Windsor Great Park, near the Base Camp of Sunningdale, was lent by H.M. the King for this purpose. Later an additional 66 acres, known as Norfolk Farm, near Virginia Water, was also lent by His Majesty, and a further 70 acres of private land at Virginia Water was rented for £36 per annum. At the Norfolk Farm 47 acres were put under potatoes, 15 under oats, 6 under beet, and the remainder small vegetables. The operations were in charge of Captain B. G. Rennie, of British Columbia, who was appointed Food Production Officer, assisted by two experienced farmer N.C.O.'s, one of whom was specially skilled in bacon curing. No man on the work was of a medical category higher than B 2, and none of the Officers was eligible for general service. The bacon cured was either sent to the A.S.C. or used at the local Forestry Corps Camps. The refuse from the messes went a long way towards feeding the stock of 70 pigs and 140 head of poultry. Their Majesties the King and Queen took a keen interest in these farms, and the Officer Commanding and his Staff bear testimony not only to the graceful acts of courtesy and hospitality shown by them, but also practical assistance afforded towards making the work at Sunningdale a great success. This will certainly be a pleasant memory to the many thousands of Canadian Forestry Corps men who have been from time to time quartered in that delightfully situated Base distributing Camp, which, in fact, was regarded as one of the most beautiful in Great Britain.

The good work at the Base was naturally followed elsewhere, and within a little more than a year the Corps was operating 36 Company Farms in Great Britain, occupying 470 acres, and producing potatoes, turnips, parsnips, onions, carrots, cabbages and other vegetables and garden produce, besides hay, oats, rape, etc., as food for horses and pigs. The breeding of pigs was undertaken on a large scale and with very successful results, especially at Sunningdale. At each farm it was the rule that at least 10 pigs should be kept so as to utilise all the waste from the messes. In July, 1918, there were on all the farms 461 pigs, 142 fowls, 110 chickens and 40 rabbits. The last named proved a very profitable side line, and were bred on a large scale.

It should be mentioned that most of the land acquired for farming purposes was kindly lent rent free or obtained on very easy terms.

Medical Services.—When it is remembered that the Canadians were operating in a country and climate to which many of them were strangers, and often in out of the way localities, the need for special Medical arrangements is very evident. As early as March, 1916, a Medical Officer was appointed for the 224th Battalion, in the person of Captain R. R. Barker, C.A.M.C., who had had practical experience of the medical side of a Canadian Lumber Camp. Men of the Corps who had already some knowledge of first-aid were put through a further course and sent as medical orderlies with the various companies, but it soon became necessary to add other Medical Officers to the Corps and to extend the organisation by attaching an Officer to each District Headquarters, the supervising Medical Officer being in London.

The Medical Orderlies were at the end of 1916 transferred to the C.A.M.C., and attached to the Companies as Medical Sergeants. A medical hut was included in the buildings of each Camp, and usually contained two rooms, one serving as a dispensary and the other holding six cots. This hut formed the centre of the medical work of the Camp, such as sick parades, dressings, etc. The services of the nearest Doctor were enlisted where possible to supplement these arrangements, and fortunately in most cases there was within a few miles of most of the Camps a V.A.D. Hospital or larger institution where serious cases could be sent. The fact that Camps, generally speaking, had railway facilities

for taking away the timber naturally assisted the transport of the sick, but the arrangements had to be adapted to the widely differing circumstances of various Companies.

The Medical Services grew with the Corps and it became necessary to have a Medical Officer at the Base Depot, where in the autumn of 1917 a sick detention hut with 20 beds was erected, and Armstrong huts were reserved for isolation. Later a segregation camp was arranged for quarantining men from Canada. In March, 1918, a hospital of 75 beds was opened at the Base Depot. Medical supplies were at first obtained from the Canadian Medical Service, but at the end of 1917 it was arranged that these should be drawn from the Imperial Authorities.

In addition to caring for the sick, the Medical Officers were of course interested in various matters affecting the health of the men, such as ventilation of the huts, heating and lighting, cooking, messing, bathing, water supply and sanitation. The health of the men on the whole has been very good, making allowance for the Influenza epidemic.

Y.M.C.A. and Similar Bodies.—This record would be incomplete without mention of the splendid help afforded by the Y.M.C.A., who had a hut at every camp, usually containing a piano and facilities for writing, games and amusements; a small dry canteen was also operated in connection with each Y.M.C.A. hut, separate from the other canteen arrangements of the camp. The officers and men of the Corps owe much to the Y.M.C.A., Church Army and kindred bodies, in relieving what might otherwise have been tedious hours in many an outlying camp.

Table of Operations in Great Britain.—In the following table are given the names of the operations carried out by the various Companies concerned, the period of working and the output:—

Coy. No.	Location of Operation.	Period Operating.		Total Production.	
		Commence- ment.	Com- pletion.	Cubic feet.	Equivalent F.B.M.
51 DISTRICT.					
106	Broadshaw, Nairn	1- 7-16 ..	24- 4-17 ..	756,267 ..	9,075,204
	Knockando, Elgin	5-11-17 ..	— ..	399,520 ..	4,794,240
107	Keppernach, Nairn	27- 8-16 ..	27- 8-17 ..	875,919 ..	10,511,028
	Achneim, Nairn	27- 8-17 ..	10-12-18 ..	421,815 ..	5,061,780
	Ord, Nairn	27- 8-17 ..	— ..	279,198 ..	3,350,376
117	Dornoch, Sutherland	22-11-17 ..	— ..	238,584 ..	2,863,008
129	Dornoch, Sutherland	22-11-17 ..	— ..	802,490 ..	9,629,880
120	Kinsteary, Nairn	14- 5-17 ..	5- 4-18 ..	728,780 ..	8,745,360
	Orton, Elgin	12- 3-18 ..	— ..	538,517 ..	6,462,204
122	Forres, Elgin	1- 6-17 ..	20- 6-18 ..	599,918 ..	7,199,016
	Scurrapool, Elgin	18- 7-18 ..	12-12-18 ..	166,459 ..	1,997,508
138	Braemore, Ross-shire	13- 7-18 ..	— ..	27,178 ..	326,136
52 DISTRICT.					
111	Castle Douglas, Kirkcudbright ..	6- 6-16 ..	26-11-17 ..	378,466 ..	4,541,592
	Southwick, Kirkcudbright ..	27- 3-17 ..	31-10-17 ..	66,956 ..	803,472
	Longtown, Cumberland ..	29-12-17 ..	30- 7-18 ..	277,226 ..	3,326,712
	No. 2 Netherby, Cumberland ..	1-10-18 ..	— ..	56,491 ..	677,892
112	Chillingham, Northumberland ..	15-11-17 ..	12-10-18 ..	456,679 ..	5,480,148
	Whittingham, Northumberland ..	19-10-16 ..	15-12-17 ..	572,860 ..	6,874,320
113	Netherby, Cumberland	18-10-16 ..	21- 7-17 ..	183,115 ..	2,197,380
	Castletown, Cumberland ..	26- 7-17 ..	8-12-17 ..	169,720 ..	2,036,640
	Worksope, Notts	20-12-17 ..	— ..	533,499 ..	6,401,988
115	Dalston, Cumberland	8- 1-17 ..	17- 8-17 ..	326,839 ..	3,922,068
	Thurstonfield, Cumberland ..	20- 8-17 ..	5-12-17 ..	193,331 ..	2,319,972
	Harbottle, Northumberland ..	15-11-17 ..	14- 8-18 ..	581,769 ..	6,981,228
	Appleby, Lincs	28- 6-18 ..	— ..	144,514 ..	1,734,168
127	Birkenside, Roxburgh	4-10-17 ..	11- 1-19 ..	712,850 ..	8,554,200
131	Cliburn, Westmorland	10-11-17 ..	19- 6-18 ..	308,599 ..	3,703,188
	Geltwood, Cumberland	5- 7-18 ..	— ..	122,606 ..	1,471,272
132	Mansfield, Notts	18-12-17 ..	8-11-18 ..	463,538 ..	5,562,456
133	Beaconwood, Cumberland ..	10-11-17 ..	1- 7-18 ..	528,334 ..	6,340,008
	Wolsingham, Durham	1- 8-18 ..	— ..	41,169 ..	494,028
139	Lantonhill, Roxburgh	28- 2-18 ..	29-11-18 ..	297,631 ..	3,571,572

Coy. No.	Location of Operation.	Period Operating.		Total Production.	
		Commence- ment.	Com- pletion.	Cubic Feet.	Equivalent F.B.M.
53 DISTRICT.					
101	Virginia Water, Surrey ..	13- 5-16 ..	— ..	2,149,811 ..	25,797,732
102	Rapley Lake, Surrey ..	17- 5-16 ..	26- 9-17 ..	482,420 ..	5,789,042
	Mortimer, Berks ..	3- 9-17 ..	26- 9-18 ..	957,261 ..	11,487,130
116	Groombridge, Sussex ..	2- 2-17 ..	26- 9-18 ..	857,337 ..	10,288,044
119	Langley Park, Bucks ..	28- 5-17 ..	4- 7-18 ..	625,531 ..	7,506,372
	Wendover, Bucks ..	6- 5-18 ..	— ..	390,933 ..	4,691,196
125	Woburn Sands, Bucks ..	18- 8-17 ..	25- 7-18 ..	1,072,466 ..	12,869,592
126	Amphill, Beds ..	25- 8-17 ..	16-11-18 ..	706,696 ..	8,480,352
	Downham Hall, Suffolk ..	27- 7-18 ..	— ..	43,940 ..	527,280
135	Sandhurst, Surrey ..	5- 1-18 ..	— ..	702,210 ..	8,426,520
136	Black Lake, Surrey ..	22- 2-18 ..	— ..	421,208 ..	5,054,499
140	Smiths Lawn, Berks ..	19-11-17 ..	— ..	384,689 ..	4,616,268

54 DISTRICT.

103	Emery Down, Hants ..	24- 4-17 ..	27- 5-18 ..	667,565 ..	8,010,780
	Norley Wood, Hants ..	20- 5-16 ..	21- 2-17 ..	121,712 ..	1,460,544
	Longleat, Wilts ..	14- 5-18 ..	— ..	231,192 ..	2,774,304
104	Stover, Devon ..	9- 4-16 ..	13-10-17 ..	653,888 ..	7,846,656
	Mamhead and Starcross, Devon	22- 6-17 ..	— ..	917,526 ..	11,010,312
105	Torrington, Devon ..	3-12-17 ..	22- 7-18 ..	278,264 ..	3,339,168
	Wool, Dorset ..	25- 7-18 ..	— ..	87,781 ..	1,053,372
114	Esher, Surrey ..	31- 1-17 ..	26-11-17 ..	751,816 ..	9,021,792
	Eartham, Sussex ..	16- 8-17 ..	— ..	1,513,049 ..	18,156,588
117	Llanthony Abbey, S. Wales ..	19- 3-17 ..	22-10-17 ..	257,875 ..	3,094,500
118	Longmoor, Hants ..	25- 6-17 ..	— ..	1,272,824 ..	15,273,888
137	Longmoor, Hants ..	18- 1-18 ..	— ..	110,546 ..	1,326,552
125	Brockenhurst, Hants ..	28- 8-18 ..	— ..	25,796 ..	309,552
	Tisbury, Wilts ..	28- 9-18 ..	— ..	3,816 ..	45,792
134	Plym Bridge, Devon ..	14- 1-18 ..	— ..	321,081 ..	3,852,972

55 DISTRICT.

105	Kirkconnel, Dumfries ..	9- 6-16 ..	6- 4-17 ..	431,922 ..	5,183,064
108	Taymount, Perth ..	1-12-16 ..	7-11-17 ..	870,779 ..	10,449,348
	Methven, Perth ..	20-10-17 ..	3- 8-18 ..		
	Kirriemuir, Forfar ..	16- 7-18 ..	— ..		
109	Mauchline, Ayr ..	29- 1-17 ..	12- 5-17 ..	206,667 ..	2,480,004
	Kincairdine, Fife ..	30-10-17 ..	— ..	673,238 ..	8,078,856
110	Aviemore, Inverness ..	10-11-16 ..	22-10-17 ..	647,277 ..	7,767,324
	Nethy Bridge, Inverness ..	15-10-17 ..	— ..	668,335 ..	8,020,020
121	Loch Morlich, Inverness ..	21- 7-17 ..	— ..	643,078 ..	7,716,936
128	Kincairdine, Fife ..	9-11-17 ..	10- 7-18 ..	51,381 ..	616,572
	Kilkerran, Ayr ..	27- 5-18 ..	— ..	191,010 ..	2,292,120
130	Kemnay, Aberdeen ..	27-11-17 ..	— ..	513,251 ..	6,159,012
				<u>33,205,588</u> ..	<u>398,467,056</u>

Note.—In the case of Companies which had not completed operations the production figures are given up to the end of December, 1918.

SUMMARY.

Production in Great Britain from commencement of Operations to end of year, 1918.

Period.	Sawn Material. F.B.M.	Round Material. Tons.	Slabs and Fuel Tons.
Commencement to end of year, 1916 ..	18,534,156 ..	4,403 ..	13,515
Jan. 1st, 1917, to end of year, 1917 ..	77,120,160 ..	31,686 ..	56,224
Jan. 1st, 1918, to end of year, 1918 ..	161,944,332 ..	48,258 ..	133,179
GRAND TOTAL	<u>257,598,648</u> ..	<u>84,347</u> ..	<u>202,918</u>

CHAPTER V.

OPERATIONS IN FRANCE.

Early Stages : Colonel McDougall's Report.—Mention has already been made of Lord Kitchener's early request that Canadian lumbermen might be sent to France, and how, as the outcome, Colonel (afterwards General) McDougall, with two other officers, paid a four days' visit to the timber operations then being carried on by the British Armies behind the lines, in June, 1916.

In his Report Colonel McDougall began by pointing out the importance of closer co-operation between the various branches, and of improved equipment adapted to cutting beech timber which was at that time chiefly available.

He then referred to the work already being carried on by the Engineering Officers at the Front who were making the best of the limited facilities at their disposal. He pointed out the many uses of lumber for mining work, trench and road work, sleepers and bridge timbers, and in other directions; the difficulty of fashioning and carpentering the miscellaneous material that could be obtained to suit the jobs for which it was needed; the unsuitability of beech timber for many of the purposes for which timber was needed at the Front. His recommendations were as follows :—

1. That pine forests should be acquired at once, under proper advice as to quality and price, and that they should be felled and manufactured by the lumbermen.
2. That the beech forests should only be used for supplying firewood and rough timber for roads and mines.
3. That the organisation for supplies of timber in France should be reorganised, and that an Engineering Officer, experienced in lumbering, should be sent to France to carry out the work.
4. That indents from every source in France should pass through this Officer, who would pass them to London with his recommendations as to the source of supply.
5. That the persons presently responsible for supplies in England and France should be brought into close co-operation, so that no timber would be imported from abroad or from England that could be obtained through the lumbermen in France.

With regard to the organisation of the Lumbermen's Battalions, he suggested :—

That the Battalions that were being raised in Canada come over in Units of 150 or 200, and that they should not sail from Canada without their complete equipment, saw-mills, tools, etc.

That each Unit should consist of the requisite number of saw-mill hands, fellers, horsemen, etc.

That they should all be controlled from London, under one Chief, who would, with a knowledge of the operations in both countries, determine their distribution.

That the complete equipment should not be decided until the nature of the forests acquired in France is determined.

It had previously been suggested that 1,000 Canadian lumbermen might usefully be employed in France, where forestry operations were already being carried on behind the lines, but the Report showed various ways in which improvement was desirable in view of the prolongation of the War and the increase in the magnitude of the operations.

Although the suggestions in this Report were not adopted in their entirety they were of great help, and eventually, as already noted in a previous chapter,



No. 32. Railing Logs in the Vosges.



No. 33. Truck-load at the end of a 600 ft. Trestle in the Vosges.



No. 34.

On the Trestle.

Colonel McDougall was placed in charge of all Canadian Forestry Units both in France and Britain, with the rank, bestowed on the 26th September, of Temporary Colonel. Major B. R. Hepburn was also appointed Lieut-Col. and Assistant Director of Timber Operations.

The Canadian lumbermen soon made good wherever they went. As early as June, 1916, the French Minister of War wrote with regard to them that he had no doubt that, thanks to their professional efficiency which had been witnessed both in France and in England, and also to their being conscious of the importance of their task, the Canadian lumbermen would succeed within a short time in making up for the deficiency (of lumber), or at all events greatly alleviate it.

British Official Mission and its results.—On the 29th September, 1916, representatives of various British Departments and of the Canadian Forestry Units proceeded to France to meet French officials in connection with the supply of timber to the British Army. The Mission comprised Mr. (now Sir) Frank Baines, of H.M. Office of Works, etc., Mr. J. Sutherland, Director of the Home-Grown Timber Committee, and Mr. F. R. S. Balfour, of the same Committee, together with Col. McDougall, Col. Rathbun, Major Hepburn, Major McDonnell and Major Miller, of the Canadian Forestry Units, with Mr. James Eggar, of the Office of Works. They conferred in France with Gen. Chevalier, Directeur de Génie, Ministère de la Guerre, Commandant Joseph Thiollier, Inspecteur des Eaux et Forêts, and Captain Herbillon, attached to the Ministère de la Guerre. Mr. Porges accompanied the deputation as Interpreter. The Mission, after meeting the French Officers, proceeded to inspect various forests in Brittany, Normandy and the Jura. The arrangements under which felling might be carried on were discussed with the French Officers concerned, and it was explained that for a continuous lumbering operation an area of at least 500 hectares should be provided; also that a storage dépôt near the British Army zone would be required, and that the question of transport was most important. The French State Forests are worked on scientific principles, according to which thinning to a definite extent only is permitted. It need hardly be said that the Canadians would much have preferred working areas which could be clear felled. The Mission accordingly recommended that if possible a large extent of mature and partially mature woodlands of at least 500 hectares in the Jura forests should be exploited by the Canadian Battalions, and that each of the areas should not be of less than 150 to 200 hectares in compact blocks, out of which not less than 200 cubic metres per hectare should be felled. This last condition was regarded as imperative if rapid production was to be obtained. In addition it was suggested that if possible a forest of well-grown pine at least 80 years old, covering not less than 100 hectares, should be made available for clear felling nearer the British lines.

Following upon this visit, Col. McDougall recommended to the Canadian Adjutant-General that in view of the organisation of a Directorate of Forestry it would be expedient for all the Canadian Forestry Units arriving from Canada to be absorbed into a Unit to be created, and designated The Canadian Forestry Corps. This proposal was carried into effect, and was eventually embodied on the 21st November, 1916, under Headquarters Canadians (Brighton) After-Order No. 1.

Previously, in September, 1916, to meet the urgent needs in France, he had arranged to equip 250 men from the supplies in the United Kingdom, and to send them, with a mill belonging to the Home-Grown Timber Committee, to work in France. At that time the 238th Battalion was coming forward, and it was suggested that one of the Battalions in Britain should be transferred to France, and half of the new Battalion be put to work in Britain until arrangements for receiving it in France were completed. He suggested on the 23rd September, 1916, to the Canadian Authorities, that if possible a further Battalion, which might be composed of French Canadians, in addition to the 224th, 238th and 242nd, should be provided, and that this further Battalion and the 238th should be equipped for work on pine forests, while the 242nd

was equipped for operating beech woods. As already indicated, the 230th Battalion of French Canadians was eventually turned into a Forestry Battalion.

The formation of the War Timber Commission has already been referred to in Chapter II. Under this arrangement, at the end of October, 1916, two Liaison Officers between the French Government and the Canadian Forestry Units were appointed and given temporary commissions, namely, Lieut.-Col. F. R. S. Balfour and Major E. D. Porges, both of whom took part in the visit of British officials to France in September. It was arranged in November, 1916, that the Home-Grown Timber Committee would bear the cost of technical equipment, etc., for the work in France as for that in Great Britain.

Organisation of the Corps in France.—After the formation of the War Timber Commission, operations in France were commenced in the centre of Normandy, and a Group Headquarters was formed at Conches-en-Ouche, in the department of Eure. In a very short time it became apparent that the work in France would be as large if not larger than that in England, owing to the difficulties of transportation between Great Britain and France, together with the amount of time that could be saved in supplying the Armies in the Field with the lumber that they required from local sources.

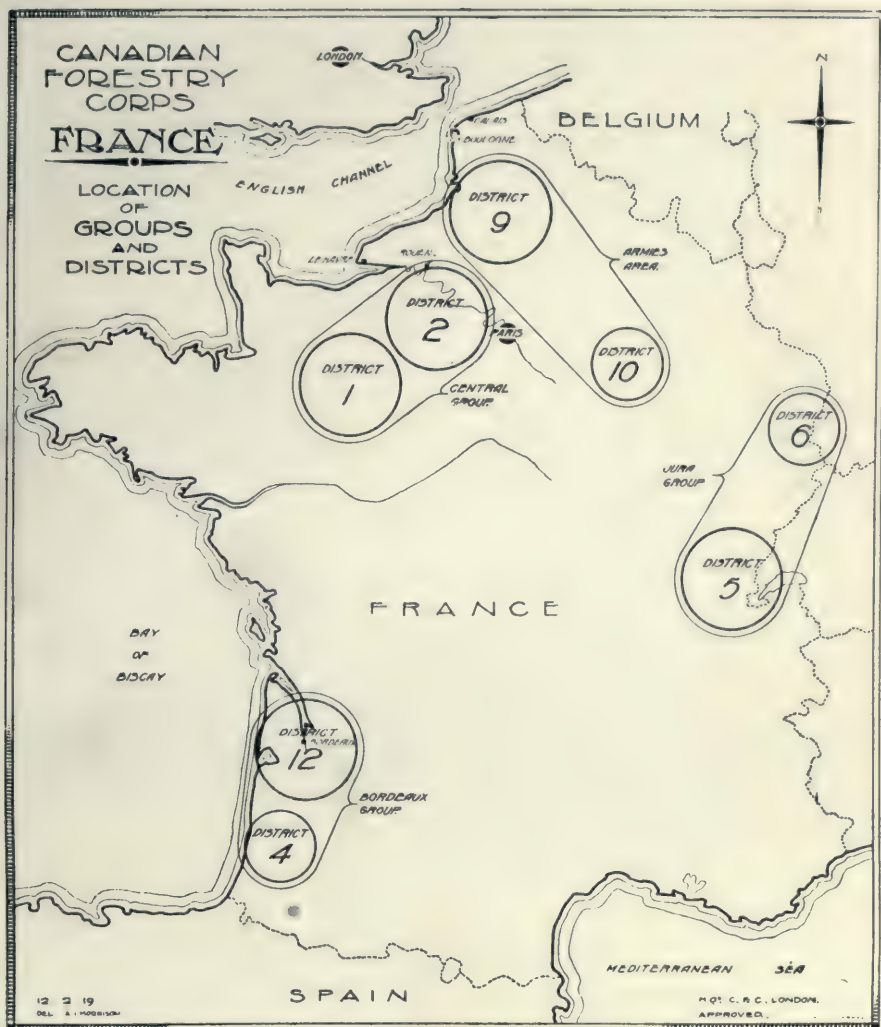
On 17th March, Colonel J. B. White arrived in France to assume the duties of Director of Timber Operations there, making his Headquarters at Paris-Plage, where he would be in touch with the Headquarters of the British Directorate of Forestry.

In carrying on this work, an Establishment was drawn up and approved by the War Office, providing for the formation of C.F.C. Companies, District and Group Headquarters (the District Headquarters to administer three or more Companies on one area, and the Group Headquarters to administer two Districts), a Technical Warehouse (to be located at Le Havre), and a Corps Headquarters.

It was arranged that the forests to be operated were to be supplied through the British Directorate of Forestry, who would also prepare the sawing specifications required. All trees to be felled were to be marked by the Commission Forestière d'Expertises on behalf of the French Government. As soon as Right of Entry to any forest was authorised the Canadian Forestry Corps was then to assume full responsibility for the operation.

To facilitate the exploitation of French forests it was afterwards arranged, following upon Conferences on 2nd and 25th May, 1917, between French and British representatives, that a Committee should be formed, eventually known as "Le Comité Interallié des Bois de Guerre," to be composed of French, British and Canadian representatives, including General McDougall and General Lord Lovat, with a standing Executive Board having four members, one being Lt.-Colonel Sutherland and one designated by the Canadian Forestry Corps. The last-named appointment was filled on 2nd July by the appointment of Capt. P. D. L. Lyall. American representation was subsequently added.

Up to the end of May, 22 Canadian Forestry Corps Companies had arrived in France and were operating under the Central Group Headquarters previously formed, and under No. 6 District Headquarters, formed in April at Gerardmer, Vosges. In June ten additional Companies arrived in France from England, and in July No. 1 District was formed with Headquarters at Alençon, and also No. 4 District with Headquarters at Orleans. In the latter month six more Companies arrived. In August eight more Companies were sent out, and No. 9 District Headquarters was formed at Albert to administer Companies in the Armies Group, working solely for the British Armies. No. 5 District Headquarters was formed at La Joux, Jura, and No. 12 District Headquarters at Fature, Gironde. In September three Companies arrived, and No. 2 District Headquarters was formed at Conches. In October six more Companies were sent out from England, and No. 1 Forest Party and No. 2 Forest Party, consisting of Canadians who had been in France working under the direction of Imperial Authorities since 6th June, 1916, were taken over by the Corps with the titles of Nos. 1 and 2 Companies, Canadian Forestry Corps. The Eclaron Detachment was organized in this month, consisting of



No. 35.

Map showing C.F.C. Operations in France.

what was previously known as the Noyon Detachment, working for the French Armies. In November one more Company arrived from England, making a total of 58 Canadian Forestry Corps Companies in France. The Jura Group was formed in this month to control Nos. 5 and 6 Districts. In February, 1918, No. 10 District was formed from the old Eclaron Detachment, and the Bordeaux District was formed for the administration of Nos. 4 and 12 Districts. In June, 1918, in connection with work for the Royal Air Force, two Companies arrived from England, and in July No. 11 District was formed to control these Companies. In September three more Companies arrived for this District, followed in October by two more.

The prompt success of the Canadian Forestry operations in France was contributed to by the action of General McDougall, with the advice of the senior Officers of the Corps, in arranging in October, 1916, the purchase of machinery and equipment for 10,000 men before the men were officially authorised. The Canadian Pacific Railway, realising the importance of the work, helped with the purchase and movement of this machinery. Owing to the foresight shown, the Canadian Forestry Corps operations have been able to maintain their high standard of efficiency.

In all operations of the Canadian Forestry Corps in France, they have had attached to their Companies unskilled labour, such as Prisoners of War Companies, Chinese Labour Companies, and Russian Labour Companies.

In March, 1918, at the time of the German advance, the Canadian Forestry Corps was called upon to train men as reinforcements for the Combatant Forces up to about two Battalions of 800 men. Instructions were sent to all Districts for a certain number of men in each District to complete their infantry training, which was accordingly done. In October, 1918, the Canadian Forestry Corps was called upon for reinforcements for the Canadian Corps, which owing to these preparations they were able to supply.

As showing what the Corps could do, the following record output was made in June, 1918. With a standard Canadian mill, driven by a 120 h.p. twin Robey engine, having two boilers of 44 h.p. and one of 25 h.p., in 10 hours working time, from 7 a.m. to noon and from 1 p.m. to 6 p.m.—3,931 pieces of lumber all cut square, trimmed and of various sizes, were turned out, amounting to 130,438 F.B.M. Another cut for 10 hours running time amounted to 115,366 F.B.M.

A record transfer of a mill from one operation to another in May of the same year, was that of a Scotch mill with a Campbell attachment. The last log was sawn at the old operation at 9 a.m. on the 29th May. The mill was moved a distance of five kilometres, erected on the new site, and sawing commenced at 7 a.m. on the 30th May, and was in full swing by 2 p.m. on that date. On the 31st of May, 18,000 F.B.M. were produced. On the 1st June, this was increased to 23,000 ft.

Following upon the Armistice, the arrangements made had for their object to arrive at a position which would permit operations to be closed down on two or three weeks' notice, or to resume their normal production immediately. Accordingly the instructions provided that all coupes in which work was actually proceeding should be cleared up, and that afterwards felling should be limited to the amount necessary to maintain a stock of logs for sawing to allow of a one mill shift of eight hours per day for one week. In the meantime sawn timber was not to be despatched if avoidable. Logs were to be hauled to mills and converted into commercial sizes, and the sawn lumber was to be piled with a view to preservation in places convenient for removal, but not where it would cause congestion of current traffic. Poles, etc., were to be stacked at the road side. In short, the operations were to be carried out on the lines of a commercial undertaking, with an avoidance of every unnecessary expense and with a careful taking of stock. Shortly after the Armistice, steps were taken to begin demobilising the Corps in France, preference being given to married men of long service and low medical categories.

Appreciation of the Corps' Work.—The following is an extract from Field-Marshal Sir Douglas Haig's despatch of 25th December, 1917 :—

"FORESTRY AND QUARRY UNITS.

"By September, 1917, the Army had become practically self-supporting as far as regards timber, and during the active period of working, from May to October, over three-quarters of a million tons of timber were supplied for the use of the British Army. Included in this timber was material sufficient to construct over 350 miles of plank roads, and to provide sleepers for 1,500 miles of railway, beside great quantities of sawn timber for hutting and defences, and many thousand tons of round timber, fascines and fuel. The bulk of the fuel wood is being obtained from woods already devastated by artillery fire.

"These Forestry and Quarry Units have proved of great value, and have been the source of very considerable economy. My special thanks are due to the French Forestry Authorities, as well as to the Comité Interallié des Bois de Guerre, for their assistance in our negotiations regarding the acquisition of woods and forest areas."

In addition to supplying themselves with machinery, the Canadian Forestry Corps have supplied some equipment and machinery to the Royal Engineers, and also to the American Forces, from whom they received the following letter written by Colonel Woodruff, American representative on the Comité Interallié des Bois de Guerre :—

"We wish to express our appreciation to the Canadian Forestry Corps for the excellent co-operation and assistance they have given the Americans in the Vosges, at Besançon, in the Landes, and in fact all over France.

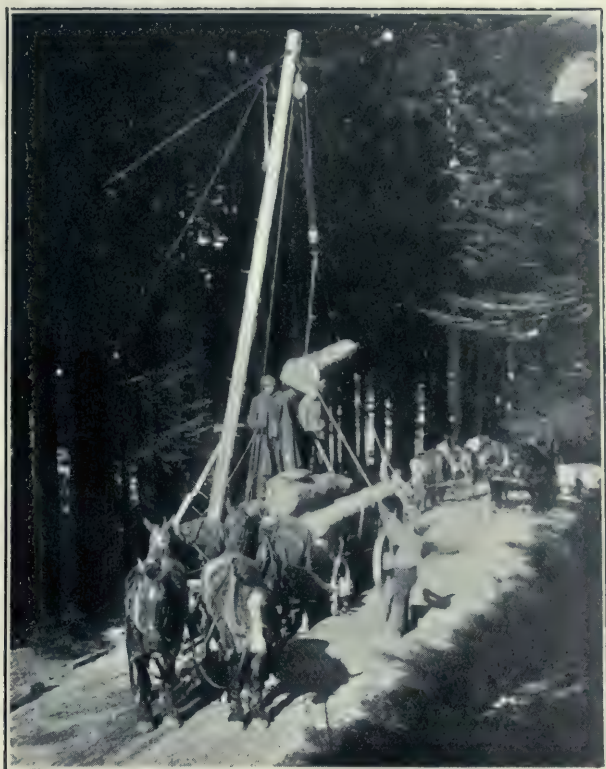
"They have secured for us five complete saw-mills.

"In addition to the above, the Canadian Forestry Corps have repeatedly loaned equipment to the American Forestry Troops, and have extended invitations to them to join in all of their sports and entertainments, and have co-operated in the matter of policing near-by towns, and in every manner assisted to the fullest extent.

"The American Forestry Troops are also indebted to the Canadian Forestry Corps for the use of their machine shops to make repairs to broken parts of the American mills, and for promptly furnishing lumber for building barracks on the arrival of the Americans at a time when it was most important that shelter be provided for the troops.

"... I am pleased to thank General McDougall on behalf of the American Expeditionary Forces."

The Paris Office.—Turning to the work of the individual bodies of the Corps, we may begin with the Paris Office, started on 24th June, 1917, whose work at first consisted of compiling statistics, translating contracts, etc. Owing to the central position of this office it was not long before its usefulness was appreciated and its original duties enlarged upon. It became a connecting link between Corps Headquarters at Paris-Plage and the Group and District Headquarters, which in turn controlled the Canadian Forestry Corps Companies scattered over the whole of France. It enabled the Director of Timber Operations more easily to meet his Group and District Commanders, and conferences were arranged from time to time. On 24th August, 1917, the purchasing of small parts of machinery and mill equipment, which had previously been carried out by the British Forestry Mission, was taken over. Such orders were invariably required urgently to replace some small breakdown or to complete the erection of new machinery. These orders were often placed and the material shipped within 24 hours after receipt of the necessary information, thus preventing what might have caused a serious delay in the milling operations.



No. 36.

Loading on Wagons.



No. 37.

Loading on Wagons.



No. 38.

Loading at Railhead in the Vosges.

Lt. P. W. Lyall with his Staff of 1 Officer and 8 other ranks started the work. In November, 1917, when the establishment was approved for this Detachment, Lt. Lyall continued in charge with the rank of Staff Captain, being made Lt.-Col. in September, 1918, and Deputy Assistant Director of Timber Operations in charge of the Marne Group, Capt. G. N. Ledger taking over command of the Paris Detachment.

From August, 1917, to November, 1918, the total amount of purchases made through this Office amounted to 152,192 francs, all accounts approved and no accounts standing.

Medical Services.—During the early days of the Corps in France, little attention was paid to medical services, the Units being too small to necessitate a distinct organization. However, as Districts began to multiply and Companies began to operate in more out-of-the-way areas, it became apparent that special hospitals were necessary to give the attention and everything else required in the interests of humanity and efficiency.

The first step was taken when Lt.-Colonel F. W. E. Wilson was sent to the Jura Group as Medical Officer in July, 1917, where a small hospital was just being started. The decision that special hospitals should be opened has since been justified by a great saving in man power through ability to give prompt care to all serious ailments or injuries, besides the fact that the patients were naturally happier than when placed in large, strange hospitals amongst men unknown to them. The C.F.C. Hospital at Champignole in the Jura Group, with 150 beds, a good medical staff, and C.A.M.C. nurses, since its inception has admitted 4,000 patients and has proved a great success.

The sanitation of the entire Jura Group of operations was also taken in hand, with the result that the arrangements were unsurpassed by any other military organization in France. They included hot and cold baths for the men at all times, clean kitchens and dining halls.

In the winter of 1917-18 it became necessary that a Senior Officer should be appointed to take entire charge of the Corps medical work, as the increasingly scattered forestry operations rendered it exceedingly difficult to superintend the necessary arrangements. Lt.-Col. Wilson was accordingly appointed Senior Medical Officer and Assistant Director of Medical Services with the C.F.C., and on 15th April, 1918, he opened an office at Corps Headquarters.

Statistics compiled on 9th October, 1918, show that the Medical Services of the C.F.C. had provided 408 beds, of which 330 were then occupied, 26 Medical Officers, 13 Nurses, and 159 C.A.M.C. personnel. The ambulance service, comprising in all 16 ambulances, had been organized so that all Districts were well supplied.

In all this work the Medical Services of the C.F.C. have been greatly assisted by the Canadian Red Cross Society, who have freely given ambulances and many comforts for the patients, and have assisted in furnishing hospitals throughout the Corps. The very good record of health of the C.F.C. in France was to a great extent due to the active support and sympathetic consideration given to the advice of the Medical Officers by the Director of Timber Operations and the various Group and District Commanders.

Chaplain Services.—The first Chaplain in the C.F.C. in France was appointed in February, 1917, when there were only five Companies in the Group. Another was appointed in June, 1917. In October, 1917, one was sent to the Bordeaux Group. As the work of the Corps developed, the organisation of the Chaplain Services was strengthened and the number increased until at the conclusion of hostilities there were 15 Chaplains with the Corps in France.

As the Companies were separated by distances of from 5 to 100 miles, it was no easy matter for the Chaplains to maintain constant touch, but this difficulty was overcome by the willingness of Corps Headquarters

to render every available assistance, and by the eagerness of the Chaplains themselves to allow of no hindrance to their work. Every possible means of transport open to them was utilised, and it was not long before each Company was having services at least once a month. The Chaplains soon took up the matter of recreation for the men, and Cinemas and Lectures were started. The question of Education has also been attended to, and correspondence classes arranged through the Khaki University of Canada.

At regular intervals the Senior Chaplain has visited all the Companies in France, delivering addresses to the men during their lunch hours and in the evenings, and travelling in all some 17,000 kilometres to keep in touch with the men and with the individual work of every Chaplain.

Technical Warehouse, Le Havre.—This Unit was started in April, 1917, and was at first known as the Le Havre Detachment. It was charged with the receipt and despatch of all Technical Equipment required by the Corps in France, the bulk of this material coming from Headquarters in England, and the remainder from the Director of Works and the Chief Ordnance Officer. The warehouse was acquired in May, 1917, at the R.E. Base Park, Le Havre, to hold spare parts likely to be urgently needed. From 1st June to 31st December, 1917, over 7,000 tons of material was sent to the Districts in France, in addition to mobilisation equipment brought over by Forestry Companies arriving from England. Since January, 1917, the Unit at Le Havre has handled over 11,000 tons of equipment. This constitutes no mean achievement, including as it does the loading and despatch of over 800 railway trucks. This was accomplished in the face of the shortage of railway trucks, and the fact that the Canadians were by no means the only persons needing them.

Central Group Headquarters.—These Headquarters date from the arrival of Lt.-Col. Rathbun and his Staff at Le Havre on 28th November, 1916, whence they proceeded to Conches (Eure). No. 14 Company, the first of the Canadian Forestry Corps to operate in France, began operations at Bois Normand in December, 1917. This Company was followed by Numbers 19, 20, 23 and 24, to work additional areas, and all had mills in operation before the spring of 1917. Numbers 30, 32, 34, 38, 42 and 44 Companies followed, and later, in July, 1917, Numbers 53 and 54. As the work increased it became necessary to form separate Districts. No. 1 District was formed in July, 1917, with Headquarters at Alençon (Orne), and No. 2 District in September of the same year with Headquarters at Conches.

When the Companies Nos. 51, 53 and 15 were transferred to the Bordeaux group in the summer of 1917, the Headquarters were moved in November, 1917, from Conches to Evreux.

As illustrating the doings of one individual Company, No. 20 may be taken as an example. This Company was recruited in Canada as a part of the 242nd Battalion, left Halifax for England in November, 1916, and arrived in France on 2nd January, 1917, with a strength of six Officers and 187 other ranks. The Company proceeded to Lyre (Bois Normand). Logging operations and the erection of a Scotch mill were commenced on 9th January, and on the 22nd of the same month operations were started at the mill, which were completed by 3rd February. The Company then proceeded to Blanchelande, where logging operations were started on 7th February, and from 14th May to 23rd June sawing operations with a Scotch mill were carried on. On 11th June a Canadian mill was put into operation, and the entire exploitation was completed on 23rd July, the Company then moving to the Forest of Perseigne, commencing logging there on 30th July, and operating a Canadian mill from 14th August, 1917. A Scotch mill was also put into operation on 9th January, 1918, this Company with its two mills working in the same forest until the close of hostilities.

Whilst at Bois Normand, the forest products of this Company amounted to 245,000 F.B.M., and the mill products to 150,000 F.B.M.



No. 39.

Stables in the Vosges.



No. 40.

A Logging Camp in the Jura Group.



No. 41.

A Mill for Aircraft Timber, Jura Group.



No. 42.

A Company and its Mill, Jura Group.

The operations at Blanchelande resulted in the following output :—

Wood Products	..	..	..	..	2,000,000 F.B.M.
Telegraph Poles	..	..	..	..	10,400 „
Defence Poles	..	..	..	..	1,500 „
Pickets, E.F.G.	..	..	..	..	6,800 „

Jura Group.—The Companies operating in the Jura Mountains were in November, 1917, reorganised into two districts, No. 5 with Headquarters at La Joux, and No. 6 at Gerardmer. The Group Headquarters were first at La Joux, but afterwards moved to Andelot-en-Montaigne, and then in July to Besançon. In April, 1918, the production of spruce for aeroplane purposes was begun, and as this material was very urgently required no efforts were spared to ensure rapid delivery. The record cut in this district was 159,575 F.B.M. in a ten-hour shift. The Companies included in this Group were as follows :—

No. 21, which arrived in France on 4th February, 1917, and worked at La Joux until February, 1918. The next operation, consisting in the production of aeroplane spruce, was started in Malbusson Forest, Labergement, where the Company remained until the Armistice. This was the first Canadian Company to operate a logging railway in France.

No. 22 Company, which commenced logging operations at La Joux towards the end of March, 1917, and after finishing here were transferred to Longesvilles.

No. 36 Company, also worked at La Joux. Logging operations were commenced in July, 1917, and sawing in August. In April, 1918, the Company was transferred to Labergement, adjoining No. 21 Company, who did the logging for this Company. The mill was a combination rotary and band saw, including also a re-saw and gang saw.

No. 39 Company proceeded first to Andelot-en-Montaigne, and then to Verse, where the mill was erected and sawing operations began on 9th July, 1917. Light railways were built from No. 47 Company's Camp at Larderet to the mill, and from there to the station at Verse.

No. 40 Company arrived at Andelot on 28th May, 1917, and eventually proceeded to Moutoux Forest, sleeping at first under canvas until huts could be erected. In November of the same year the Company was relieved by No. 57 Company, and proceeded to La Joux, where the Company was split up for miscellaneous work. Shortly afterwards logging operations were started for Companies 22 and 50, and later an advance party left for Rochejean, where a new operation was started.

No. 47 Company proceeded first to La Joux and afterwards to La Fresne district, working with No. 39 and 49 Companies.

No. 50 Company arrived at La Joux in July, 1917, and took over from No. 28 Company shortly afterwards. For a time the Company carried on logging operations for No. 58 Company, delivering logs to Nos. 52 and 70 Companies. Subsequently they again began operations with the mill until 26th August, 1918, when they took over the Mill from No. 21 Company. The total cut in the La Joux operation was nearly 4,600,000 F.B.M.

No. 52 Company arrived at La Joux in July, 1917, and while awaiting arrival of their own mill helped to lay out the Camp and assist other Companies. In August an operation was started at Villers, and in the following month logging for the new mill was handed over to the 58th Company. The erection of hutments was commenced towards the end of September.

No. 58 Company arrived at La Joux in July, 1917, and eventually took over the logging at Villers from No. 52 Company, also providing logs for No 70's mill. This Company has been used entirely for logging purposes in the one area.

No. 70 Company, which was known at first as the Manufacturers' Independent Forestry Company, arrived at La Joux in August, 1917. Camp was erected at Montraincon, in La Joux Forest. In September the Company was moved to Villers, and on the 24th of that month logs were run through the mill. A month later the mill was operated at full capacity, and, as showing what this means, turned out in one week in April, 1918, 378,000 F.B.M. in six shifts. This Company in July, 1918, installed a new pumping plant at Boujailles Mountains, near Villers-sous-Chalamont. The foregoing Companies were included in No. 5 District.

Those in No. 6 District were as follows :—

No. 28 Company arrived at La Joux in April, 1917, and after completing operations in July moved to the Forest of Gehant, where they remained to the conclusion of hostilities.

No. 51 Company arrived at Conches in July, 1917, and shortly afterwards proceeded via Rouen to Apilly and pitched camp in Couchy Forest at the end of June. Sawing operations began early in August and were completed by January, 1918. This Company was not employed for logging, and was one of the Companies forming the Noyon detachment, which operated in the French Army area, and was then under No. 10 District. The next operation of this Company was at Noiregoutte, where they were still working at the time of the cessation of hostilities.

No. 56 Company arrived at Gerardmer early in August, 1917, and proceeded thence to Martimprey, pitching Camp next day at La Chaume, where they were split up into reinforcing Battalions, some assisting adjacent mills and others being employed in logging operations. Work in the Forêt de l'Envergoutte was complete by this Company on 30th July, and they then assisted No. 69 Company in their operations at Forêt de Plaineau. Drafts from this Company have from time to time assisted in the operations of Companies 28, 51, 69 and 77. The next operation of this Company was in the Forest of Gehant, where they remained until the commencement of demobilisation.

No. 77 Company arrived at Gerardmer in the middle of October, 1917, and pitched Camp at Martimprey. Construction of the mill was completed on 9th November, both milling and logging operations being carried on here. These were completed on 27th November. The next operation carried on by this Company was at Noiregoutte, where they were still operating at the time of the cessation of hostilities.

Army Areas.—It was decided in May, 1917, to form a District Headquarters to administer the Companies operating in the Army Areas. At that date there were six Companies in this District. These Headquarters, with a technical warehouse and stores, were installed at Albert on May 14th, 1917. In October of the same year three new Detachments commenced work as Fuel Groups, and were sent to this District; they were principally operated by Indian labour, supervised by Officers and N.C.O.'s from the C.F.C. The German Advance in 1918 caused these Headquarters to be withdrawn from Albert and installed temporarily at the Camp of No. 25 Company at Lucheux. On 30th March they were again transferred to Pont Remy, and finally on 4th April, 1918, were permanently installed at Mautort, near Abbeville.

Later in the year two Canadian Forest Parties were added, and were known as Nos. 1 and 2 Companies of the C.F.C. The Companies in this District which is known as No. 9, were as follows :—

No. 25 arrived in the District in February, 1917. Both logging and milling operations were carried on, the original operations being at Eois de Faye and Robemont, with Headquarters at Blavincourt. Commencing operations here on 6th March, 1917, work was completed on 15th September. In the meantime several detachments were carrying on operations at—

- (1) Auxi-le-Château, Bachimont Forest, which was later taken over by No. 26 Company.
- (2) Bonniere.

- (3) Ligny-sur-Conches.
- (4) Blangy, where three mills were taken over to operate in conjunction with the central workshops.
- (5) Forestel, which was later taken over by No. 37 Company.

On 9th October, 1917, Headquarters and mill were moved to Lucheux, and operations have been completed in Haravenne, Parc and Hayette, work being carried on at Robemont, Foret and Watron until the end of hostilities. A Canadian mill was used for sawing, and was erected in seven days. In the original operations at Blavincourt Forest, Infantry were employed to assist, and the timber had to be hauled 6½ kilos to be sawn at a French mill. It is interesting to note that this was the first Company to arrive in the War Area. During these operations in France this Company produced the following :—

Sawn Lumber	..	..	14,136,735 F.B.M.	or	33,657 Tons.
Fuelwood	..	..	77,966 steres	or	34,153 "
Pickets	..	..	594,759 pieces	or	4,547 "
Hurdles	..	..	102,250 "	or	4,090 "
Fascines	..	..	55,615 "	or	2,224 "
Continuous Revetting	..	..	23,934 bundles	or	957 "
Faggots	..	..	50,158 "	or	891 "
Pit Props	..	..	6,252 pieces	or	250 "
Parry Sticks	..	..	40,130 "	or	4 "
Total Tonnage ..					80,773 Tons

No. 26 Company arrived at Bois Bachimont in the Army Area in March, 1917. Operations were commenced here with a French band saw mill at Auxi-le-Château, and were completed on 10th August, 1918. This Company carried on both logging and sawing operations.

No. 29 Company arrived at Mont St. Eloi towards the end of April, 1917. Logging and milling operations were commenced with a Scotch mill in Bois de Bray, and 11th July this operation being completed, moved to the Bois de Moreil, and later to Hendecourt-les-Ransart, where the Château Wood demolished by the Germans in their retreat three months previously, was exploited.

The next move was made to Boiry Ste Rectrude, and constituted a record move, being completed in a little over 24 hours. At Fait de Guerre roadside trees were converted.

On 1st September the Company Headquarters were moved to Meaulte, a Detachment of 100 men remaining at Boiry to complete operations there. Salvage timber of all kinds from the old battlefields was converted here, the Ancre Valley as far as Corbie, and the Somme as far as Suzanne and Eclusier, supplying timber. On 20th November, 1917, the Company took over the operations of the 3rd Army workshops, and here prisoners of war labour under the supervision of the Company N.C.O.'s supplied what was needed by this Army in the way of duck walks, huts, Decauville railway trucks, gas chambers, etc.

Operations on the Somme were completed on 23rd March, 1918, and the Detachment operating at Boiry and that logging at Bray were withdrawn to Meaulte as a result of the German Advance. The entire Company then proceeded to Namps-au-Val. In the meantime a loading party remained at Meaulte until the railway had been destroyed and it was found impossible to secure further transport to remove the rest of the sawn timber. For three weeks personnel was employed in making pickets, after which another move was made to Bois Bacouel. On 10th July the Company again moved, this time to Pas-en-Artenois, the move from the shutting down of the mill at Bacouel to the cutting of the first log at Pas having been completed within 53 hours. For the first few weeks fields of fire were cleared for G.H.Q. Defence

Lines, the logs thus cut being converted into road planks and scantlings. Latterly small woods and groups of trees along the Authie River were cut. This Company was in the Bois de Mormal on 5th November, 1918, the Germans having left only the previous day.

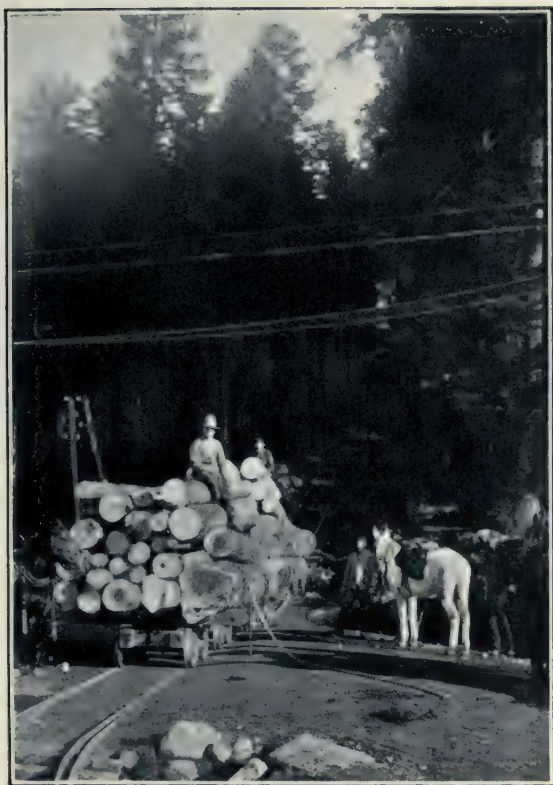
No. 35 Company commenced operations at Logeast Wood in May, 1917, with a small French bench saw mill, a Canadian mill being installed shortly after. Both logging and milling operations were carried on, the product being chiefly road planks and sleepers. Detachments worked at St. Leger, Loupart Wood and Blairville, until compelled to withdraw, also later at Havrincourt to repair and make roads. In February, 1918, a move was begun to Pont Remy, where milling operations started in the middle of March. Much of the work of the Company had to be carried out under enemy fire.

No. 37 Company arrived at Villers Brettoneux towards the end of May, 1917, and took over a mill from the Imperial Forces at Bois d'Aquenne. Shortly afterwards felling was commenced in Gentelles Wood. In September a move was made to Bois Biad, near Peronne, and subsequently a Detachment was sent to cut $2\frac{1}{2}$ miles of road through Havrincourt Forest, this being done in 17 hours. In the German Advance in March, the Camp came under fire and had to be closed down. All important parts of machinery were buried, and as much of the lumber (sleepers) removed as possible, the Germans then being only about 2,000 yards away. The Company then trudged to Wail and took over a mill from No. 26 Company on 25th March, 1918, since when it exploited the small woods in that area. The Company's Horse Transport assisted in hauling up supplies during the Cambrai Advance.

No. 1 Company was formerly a Canadian Forestry Company formed from the Canadian Remount Section. Operations in the Forest of Rouvray near Rouen were commenced in October, 1915, this operation being completed by the end of September of the following year. Immediately afterwards new operations were started at St. Evrout Notre Dame de Bois Forest, which were completed about a year later, and the Company then moved to Crecy Forest and took over the logging and milling operations from a Company of the Royal Engineers. In March, 1918, the Company was absorbed into the Canadian Forestry Corps, a new mill was erected and the personnel strengthened. In August, 1918, the Company was honoured by a visit from His Majesty King George V, who saw the mill and logging operations, and expressed great satisfaction at the manner in which they were being carried out.

No. 2 Company, which was originally No. 2 Forest Party of the Canadian Engineers, began logging operations in January, 1917, at Bois des Alleux, using a French hand-feed saw bench, and subsequently a French band re-saw mill. On finishing this operation in July, 1917, work was begun next day at Chateau d'Acq, where a swing saw and breast bench was added to the mill. In October work was begun at Bois d'Oldhain and continued there until the Armistice, logs being brought in from 12 miles around. At the conclusion of hostilities work was just being commenced at a new operation in the Forêt de Raismes.

Bordeaux Group.—The Forestry operations in the Gironde and Landes Districts originated in the summer of 1917 with the arrival of Companies 45 and 46 at Ares, Gironde, and the establishment of the administrative area known as No. 12 District C.F.C., with Headquarters at Bordeaux. By the end of the year a new Headquarters was organized as No. 4 District C.F.C., on 29th December, 1917, to carry on the operations being conducted by Companies 55, 78, 79 and 80, in the southern portion of the Landes. This District was temporarily under the supervision and control of No. 12 District, but in order to keep pace with the continued growth and expansion it became necessary to establish a Group Headquarters, and this new administration became an accomplished fact on 16th February, 1918. On this date the Headquarters of No. 12 District was moved to Factice, where its Q.M. Stores, M.T. Park and Technical Warehouse had already been for some time situated. Under



No. 43.

Railing Logs, France.



the altered conditions No. 12 District comprised Companies 45, 46, 48, 49, 79 and 80. The average weekly output at this time amounted to approximately 2,000,000 F.B.M., the total personnel being 94 officers, 2,848 other ranks, and 845 horses.

In August, 1918, two additional Companies arrived in the area, No. 15 going to Bicarosse, Landes, under the administration of No. 12 District Headquarters, and No. 27 Company to Lalueque, Landes, under No. 4 District.

Sufficient has been said with regard to the Districts and individual Companies already noted to render a detailed description of the work of these Companies in the Bordeaux District superfluous.

The Noyon Detachment.—This Detachment consisted of three Companies, Nos. 51, 55 and 76. They were sent from No. 10 District, then located at Apilly, to work in the French Army area on sawing salvaged timber which had been cut down by the Germans before their retreat in 1917. The first of these three Companies arrived at the end of July, and the last by the end of September. No. 51 Company worked in the Forest of Coucy for the production of sawn lumber, and No. 76 in the same forest for making fuel wood and small defence timber. No. 55 Company began work at Quesny, producing sawn timber from woods in the vicinity. These operations were completed by the middle of January, 1918, although they were exceedingly difficult, both on account of the very rough nature of the ground and of the frequent and heavy artillery fire from enemy guns during the exploitation. As an appreciation of this work on behalf of the French Government, certain Officers, N.C.O.'s and men were decorated with the Croix de Guerre, and highly recommended by General Humbert, then in command of the 3rd Army.

The Marne Group.—Early in June, 1918, it was decided to arrange a new Group Headquarters to cover No. 10 District, and a new District No 11 for Aerodrome Construction work. Companies Nos. 31, 33 and 76 were included in No. 10 District, and Nos. 12, 13 and 75 in No. 11 District. The Headquarters were established at the office of the Paris Detachment at 14 Place des Etats Unis, Paris. At the beginning of September, Companies 9, 10 and 11 were added to No. 11 District, and a little later Nos. 7 and 8 to the same District. Just afterwards No. 10 District took over No. 75 Company, and No. 69 Company was transferred to the same District. No. 10 District was originally known as the Eclaron Detachment from its situation at Eclaron, Haute Marne. No. 75 Company, while working a Scotch mill in that part of the Forêt Domaniale de Retz known as "Villers-Cotterets," near Boursonne-Coyelles, and situated about a mile from the front line, was obliged to camouflage its mill. Operations were carried on both night and day, although from time to time interrupted by air raids and shell fire.

No. 11 District originated from a request by Major-Gen. H. Trenchard of the Independent Air Force, R.A.F., through the Air Ministry, for two Canadian Forestry Companies to undertake the construction and preparation of aerodrome grounds for the Independent Air Force. Nine sites were named, and in order to carry on the work it was decided to organise a special District. The first two Companies required were mobilised in England, and arrived on the scene of operations early in July, 1918. Work was pressed forward as rapidly as possible, but many of the areas were under crop which could not be taken off before the end of August, so it was arranged that the Canadians should help the farmers to lift their crops. Trenches and dug-outs had to be constructed, and the horses kept in small bunches scattered among the woods on account of the liability to attack from enemy air squadrons. These Companies were first assisted by prisoners of war, but afterwards by Chinese. Three further Companies, Nos. 9, 10 and 11, arrived at the end of August, further sites having been arranged. On completing their work for the Independent Air Force the Companies moved to the British Army areas, where they were engaged upon miscellaneous work such as filling trenches, clearing barbed wire, etc., working

53, 59, 60, 71, 72, 73 and 74, whilst in No. 4 District were Companies 55, 78, with the R.A.F. Groups until the conclusion of hostilities. During the Advance, work was done by the C.F.C. Companies in preparing aerodromes for occupation, by erecting hangars, filling depressions, levelling knolls, building stretches of road, and generally clearing up. The high appreciation in which the Canadians' work was held by the British Authorities is illustrated by the following :—

Letter from the War Office, 21st October, 1918 :—

"I am commanded to inform you that it is with great pleasure that the Army Council learn from the Secretary of the Air Ministry that a letter conveying high appreciation of the work done for the Independent Air Force by your Corps has been sent to you on the 12th inst."

Extract from letter of Sir John Hunter, K.B.E., Administrator of Works and Buildings, Air Ministry :—

"You will observe from the attached letter the high terms of praise in which General Trenchard speaks of the work carried out by your Companies. I desire to associate myself with this expression of praise, and hope to have the pleasure of meeting you in the near future and of explaining to you personally how grateful we feel for the assistance you have given me."

Extract from letter of Major-General Trenchard :—

"I am most grateful for the work they (Forestry Corps) have done, for which I have nothing but praise."

We may conclude this chapter with some opinions expressed by French Authorities upon the work of the Canadians. At the meeting of the C.I.B.G., on 27th December, General Chevalier said :—

"Since the last Committee Meeting, there have been great events, owing to the gallantry of the Allied Armies and to their Chief's science. Our enemies have been defeated everywhere, and they finally let go, imploring Armistice, which has been the consecration of our glorious Army and of the Allied Armies. These events have a consequence as far as we are concerned, in that they put an end to the task we had of supplying timber to the Armies. We now mostly have to proceed to the liquidation of existing organizations, and this will be the chief object of this meeting. In any case I believe I am entitled to say in the name of all of us, that in spite of the great difficulties we have met, our main duty has been accomplished, and I have never heard that any Allied Army lacked the timber which was indispensable for the War. I therefore thought we might establish that to-day, before opening this last meeting of the C.I.B.G. (Comité Interallié des Bois de Guerre)."

In referring to a letter from Mr. Thirien, Conservator of Waters and Forests at Alençon, he said :—

"I wish to particularly thank the Canadians for all they have done in order to assist us. Most of the Canadian Companies have given us half of their output, and this has been of a great importance in the War. They have executed very difficult work for the aviation timber in the Jura, where the Labergement Mill has been a very remarkable installation.

"I wish to thank the Allies for the efficient aid they have brought us in the exploitation of burnt pines in the Landes, where the fires have been a real disaster in the region. I must add that it had not depended upon me to give them a more tangible proof of our gratitude, but I hope to be able to do so before the end of the War.

(Addressing Col. Donnelly):

"I very much regret that General McDougall is not here, which prevents me from thanking him personally, and you will please transmit my thanks to him."



No. 44. Railing Logs : Part of a 2,000 ft. Track which drops 195 ft.



No. 45.

Railhead in the Vosges.

Table of Operations in France.—In the following table are given the names of the operations carried out by the various Companies, the period of working, and the production. The location of the Districts and Groups is shown on the map, page

Coy. No.	Location of Operation.	Period Operating.		Total Produced.	
		Commence- ment.	Com- pletion.	Cubic feet.	Equivalent F.B.M.
CENTRAL GROUP.					
14	Bois Normand 27-11-16	.. 17- 4-17	2,131,957 ..	25,583,484
	Bois Anzeray .. ..	.. 18- 4-17	.. 9- 8-17	
	Beaumesnil .. ..	.. 10- 8-17	.. 18- 4-18	
	Conches .. ..	.. 19- 4-18	.. 10- 1-19	
15	Parc de Conches 17-12-16	.. 22- 5-17	2,618,482 ..	31,421,784
	Le Chapelle .. ..	.. 23- 5-17	.. 18-11-17	
	Montiers Hubert .. ..	.. 19-11-17	.. 27- 7-18	
	Chambray Detach .. ..	.. 4- 2-18	.. 3- 8-18	
19	Conches 22- 1-17	.. 29- 9-17	1,994,123 ..	23,929,476
	Dreux .. ..	.. 23- 7-17	.. 8- 1-19	
20	Bois Normand 9- 1-17	.. —	1,590,362 ..	19,084,344
	Blanchelande .. ..	.. 10- 2-17	.. 29- 7-17	
	Perseigne .. ..	.. 30- 7-17	.. 16- 1-19	
23	Rouvray 25- 3-17	.. 29- 6-18	3,303,888 ..	39,646,656
	Bord .. ..	.. 19- 6-18	.. 15- 1-19	
24	Conches (Det. Beauty)	.. 31- 7-18	.. 12- 9-18	1,503,376 ..	18,040,512
	Conches H. and R. ..	.. 4- 3-18	.. —	
30	Bois L'Eveque 22- 4-17	.. 12- 1-18	1,667,344 ..	20,008,128
	Belleme .. ..	.. 7- 1-18	.. 12- 1-19	
32	Dreux 19- 6-17	.. 19-10-18	1,185,930 ..	14,231,160
	La Trappe .. ..	.. 21-10-18	.. 2- 1-19	
34	Dreux 21- 6-17	.. 29- 6-18	1,542,464 ..	18,509,568
	Beaumont .. ..	.. 17- 6-18	.. —	
38	Andaine 31- 7-17	.. 8- 2-18	1,285,424 ..	15,425,088
	Perseigne .. ..	.. 9- 2-18	.. 24- 4-18	
	Belleme .. ..	.. 25- 4-18	.. 16- 1-19	
41	Montembert 15- 6-17	.. 5- 6-18	854,784 ..	10,257,408
	Senonches .. ..	.. 6- 6-18	.. 13- 1-19	
42	Andaine 23- 7-17	.. 21-10-17	1,542,314 ..	18,507,768
	Bois du Chateau .. ..	.. 22-10-17	.. 1- 3-18	
	L'Eveque .. ..	.. 18- 5-18	.. 3- 8-18	
	D'Ecouves .. ..	.. 3- 3-18	.. —	
43	Bois Villette 1- 7-17	.. 5- 5-18	1,369,424 ..	16,433,088
	Les Sausseux .. ..	.. 31-12-17	.. 15- 6-18	
	La Bourse .. ..	.. 25- 5-18	.. 11- 1-19	
44	Andaine 31- 7-17	.. 13- 7-18	1,681,045 ..	20,172,540
	Bagnoles .. ..	.. 29- 5-18	.. 21-12-18	
54	Bois L'Eveque 16- 7-17	.. 27-10-17	1,601,376 ..	19,216,512
	Bois Pelay .. ..	.. 22-10-17	.. 30- 4-18	
	Senonches .. ..	.. 30- 5-18	.. 15- 1-19	
53	Le Ferrier 15- 9-17	.. —	39,946 ..	479,352
	Le Haut Brau —	.. —		
78	Mortree 10-10-17	.. 1-12-17	20,533 ..	246,396
	Bois L'Eveque —	.. —		
TOTAL Central Group	..	25,932,772 ..	311,193,264
JURA GROUP.					
21	La Joux 5- 3-17	.. 1- 6-18	1,043,280 ..	12,519,360
	Labergement .. ..	.. 3- 6-18	.. 25- 1-19	
22	La Joux 26- 3-17	.. 18- 9-18	1,588,907 ..	19,066,884
	Rochjean .. ..	.. 19- 9-18	.. 31-12-18	
36	La Joux 13- 8-17	.. 1- 4-18	1,266,347 ..	15,196,164
	Labergement .. ..	.. 26- 6-18	.. 25- 1-19	
39	La Fresse 30- 5-17	.. 17-12-18	2,046,763 ..	24,561,156

Coy. No.	Location of Operation.	Period Operating.		Total Produced.	
		Commence- ment.	Com- pletion.	Cubic Feet.	Equivalent F.B.M.
Jura Group—continued.					
40	Montoux (La Fresse)	28- 5-17	3-11-17	373 ..	4,476
	La Joux	4-11-17	31-12-18		
47	La Joux	28- 6-17	7- 7-17	12,469 ..	149,628
	Larderet (La Fresse)	8- 7-17	25-12-17		
	La Fresse	26-12-17	30-12-18	1,422,437 ..	17,069,244
50	La Joux	15- 7-17	18- 1-19		
52	La Joux	17- 7-17	7- 8-17	1,526,261 ..	18,315,132
	Levier (Villers)	15- 9-17	25-10-18		
	La Fresse	26-10-18	—	8,176 ..	98,112
57	La Joux	28- 7-17	3-11-17		
	Montoux (La Fresse)	4-11-17	25-12-17	597 ..	7,164
	La Fresse	26-12-17	—		
58	La Joux	3- 8-17	2- 9-17	1,704,379 ..	20,452,548
	Levier (Villers)	3- 9-17	18- 1-19		
70	La Joux	16- 8-17	15- 9-17	2,142,149 ..	25,705,788
	Villers	21-10-17	—		
28	La Joux	26- 4-17	23- 7-17	1,201,835 ..	14,422,020
	Martimprey (Vologne)	29- 8-17	25-10-18		
	Gehant	26-10-18	4- 1-19	202,869 ..	2,434,428
51	Noiregoutte (Rochesson)	2- 2-18	27-12-18		
56	Vologne	9- 8-17	21- 9-18	186,928 ..	2,243,136
	Gehant	28-10-18	21-12-18		
69	Vologne	20- 8-17	14- 9-18	204,624 ..	2,455,488
77	Vologne	13-10-17	19- 3-18		
	Noiregoutte	26- 3-18	17- 1-19		
TOTAL		Jura Group ..		14,558,394 ..	174,700,728

BORDEAUX GROUP.

15	Parentis .. ..	.. 30-10-18	.. 13- 1-19	1,344 ..	16,128
45	Saussouze .. ..	.. 28- 7-17	.. 15- 4-18	3,089,109 ..	37,069,308
	Biscarosse .. ..	.. 27- 3-18	.. —		
46	La Saussouze .. ..	.. 17- 6-17	.. 23- 2-18	3,406,517 ..	40,878,204
	Parentis .. ..	.. 3- 2-18	.. —		
48	Saussouze .. ..	.. 28- 6-17	.. 25- 8-17	1,857,109 ..	22,285,308
	Marcheprime .. ..	.. 21- 8-17	.. 27- 7-18		
	Andernös .. ..	.. 16- 4-18	.. —12-18	Logging Only.	
	Hourtin .. ..	.. 21-10-18	.. —		
49	La Saussouze .. ..	.. 16- 7-17	.. 4- 5-18	1,347,472 ..	16,169,664
	Biscarosse .. ..	.. 27- 3-18	.. —		
53	Marcheprime .. ..	.. 9-11-17	.. 2- 2-18	66,229 ..	794,748
	Le Renent (Lanton)	.. 30- 1-18	.. —		
57	Esley (Parentis) .. ..	.. 31-10-18	.. —	2,516,901 ..	30,202,812
59	Cez (Beliet) .. ..	.. 17- 9-17	.. 10- 3-18		
	Parentis .. ..	.. 26- 2-18	.. —	62,570 ..	750,840
60	Cez .. ..	.. 16- 8-17	.. 31- 1-18		
	Parentis .. ..	.. 26- 2-18	.. —	1,017,893 ..	12,214,716
71	Marcheprime .. ..	.. 1- 9-17	.. 9- 3-18		
	Audenge .. ..	.. 10- 3-18	.. —	453,861 ..	5,446,332
72	Marcheprime .. ..	.. 17- 8-17	.. 1- 3-18		
	Lanton .. ..	.. 25- 2-18	.. —	1,910,682 ..	22,928,184
	Le Porge .. ..	.. 23-11-18	.. —		
73	Caudos .. ..	.. 24- 9-17	.. 18- 7-18	45,621 ..	547,452
	Esley (Parentis) .. ..	.. 25- 6-18	.. —		
74	Caudos .. ..	.. 24- 9-17	.. 24- 8-18	316,474 ..	3,797,688
	Esley (Parentis) .. ..	.. 25- 6-18	.. —		
27	La Luque .. ..	.. 2- 8-18	.. —	1,046,453 ..	12,557,436
55	Lesperon (Tirbiste) .. ..	.. 30- 1-18	.. 29- 5-18		
	Lesperon (Choy) .. ..	.. 30- 5-18	.. 19-10-18	1,664,581 ..	19,974,972
	Bouscaldy (Jean de Long)	.. 4-11-18	.. —		
78	Leon-les-Landes .. ..	.. 7-11-17	.. —	26,954 ..	323,448
79	Lesperon (Old) .. ..	.. 30-10-17	.. 26- 6-18		
	Lesperon (New) .. ..	.. 20- 7-18	.. —	1,746,901 ..	20,962,812
80	Lesperon (Old) .. ..	.. 1- 4-18	.. 20- 9-18		
	Lesperon (New) .. ..	.. 13- 8-18	.. —		
TOTAL		Bordeaux Group ..		20,576,671 ..	246,920,052



No. 46.

Removing Sawdust, France.



No. 47

Hauling from a Mill in the Vosges.



Coy. No.	Location of Operation.	Period Operating.		Total Produced.	
		Commence- ment.	Com- pletion.	Cubic feet.	Equivalent F.B.M.
DISTRICT No. 9.					
1	Crecy	1- 3-18	25- 1-19	2,071,851 ..	24,862,212
2	Bois D'Olhain	25- 5-18	27-10-18		
	Bois Bailleul	17- 6-18	10- 8-18		
	Raismes	28-10-18	—	523,824 ..	6,285,888
25	Blavincourt	13- 2-17	17-11-17		
	Lucheux	9-10-17	—	3,037,963 ..	36,455,556
26	Auxi le Chateau	4- 3-17	16-11-18		
	Meserolles	12- 8-18	—	1,861,851 ..	22,342,212
27	Toutencourt	3- 3-17	20- 7-17		
	Vadencourt	21- 7-17	9- 3-18	1,163,941 ..	13,967,292
	St. Just de Merais	9- 3-18	10- 8-18		
29	Bois de Bray	22- 4-17	1- 6-17		
	Moreuil	2- 6-17	7- 7-17	1,652,747 ..	19,832,964
	Hendecourt	7- 7-17	10- 8-17		
	Boiry Ste. Rectrude	11- 8-17	19- 1-18		
	Meaulte	2- 9-17	23- 3-18		
	Bois d'en Haut	24- 3-18	11- 7-18		
	Pas	12- 7-18	5-11-18		
	Mormal	21-11-18	19- 1-19		
35	Logeast	6- 5-17	—	1,194,219 ..	14,330,628
	Loupard Blainville	—	23- 2-18		
	Pont Remy	13- 2-18	11- 1-19		
37	Bois L'Abbe	19- 5-17	—	1,989,120 ..	23,869,440
	Bois Blas	27-10-17	—		
	Cherrywood	27-10-17	—		
	Chuignes	31-12-17	—		
	Delville Wood	9 1-18	—		
	Maricourt Wood	2- 1-18	—		
	Forestel	25- 3-18	—		
	Havrincourt	11-11-18	—		
TOTAL		District No. 9 ..		13,495,516 ..	161,946,192

MARNE GROUP.**DISTRICT No. 10.**

31	Der	7-11-17	—	976,752	11,721,024
33	Der	24-11-17	—	666,773	8,001,276
69	St. Etienne (Compeigne)	11-11-18	31-12-18	Logging only.	
75	Coyolles	1-10-17	10- 4-18	300,645	3,607,740
	Lusigny	26- 4-18	15-12-18		
76	Pierremande	24- 9-17	26- 1-18	306,693	3,680,316
	Der	4- 2-18	—		
51	Coucy	30- 7-17	1- 2-18	240,016	2,880,192
55	Coucy	23- 7-17	29- 1-18	181,328	2,175,936
TOTAL		District No. 10 ..		2,672,207	32,066,484
GRAND TOTAL		All Districts ..		77,235,560	926,826,720

Note.—In the case of Companies which had not completed operations the production figures are given up to the end of December, 1918.

SUMMARY.

Production in France from commencement of Operations to end of year, 1918.

Period.	Sawn Material. F.B.M.	Round Material. Tons.	Slabs and Fuel Tons.
Commencement to end of year, 1917	131,691,903	53,567	149,483
Jan. 1st, 1918, to end of year, 1918	424,251,009	170,715	454,101
GRAND TOTAL	555,942,912	224,282	603,584

